



एन एच पी सी लिमिटेड
(भारत सरकार का एक नववर्तन उद्यम)
NHPC Limited
(A Government of India Navratna Enterprise)

CIN: L40101HR1975GOI032564

Regd. Office: NHPC Office Complex, Sector-33, Faridabad-121003(Haryana)

Dated: 12.03.2025

Corrigendum No.-5

Tender ID.: 2025_NHPC_844873_1

Name of the Work:- Selection of Battery Energy Storage System (BESS) Developers for setting up of 125MW/500MWh InSTS connected standalone Battery Energy Storage Systems (BESS) in the state of Kerala under Tariff Based Competitive Bidding (TBCB) with Viability Gap Funding (VGF) support (NHPC-Tranche-I-BESS) (2024-25)

S. No.	Section	Clause No./ Ref.	Bid Conditions/ Description	Amendment in Clause
1	1	1.0, page 9 of RfS	NHPC LIMITED (hereinafter referred to as "NHPC"), has been nominated as a BESS Implementing Agency (BIA) by Ministry of Power, Gobi under the Viability Gap Funding (VGF) scheme (CPSU Component) for Development of Battery Energy Storage Systems (BESS).	NHPC LIMITED (hereinafter referred to as "NHPC"), has been nominated as a BESS Implementing Agency (BIA) by Ministry of Power, Gobi Gol under the Viability Gap Funding (VGF) scheme (CPSU Component) for Development of Battery Energy Storage Systems (BESS).
2	1	1.9, Page 11 of	Already commissioned projects cannot be considered under this RfS. Projects under construction or projects which are not yet commissioned will, however, be considered, in case	Already commissioned projects / projects under construction cannot be considered under this RfS. Projects under construction or projects which are not yet commissioned will, however, be considered, in case

		RfS	these projects are not already accepted under any other Central or State Schemes. Enhancement and augmentation of already commissioned Projects, irrespective of their capacities will not be considered as eligible Project under this scheme. The battery capacity being installed under this tender cannot be used by the developer as part of the installed Project capacity demonstrated under any other tender concluded by any Central or State Agency as on the last date of bid submission of this RfS.	these projects are not already accepted under any other Central or State Schemes. Enhancement and augmentation of already commissioned Projects, irrespective of their capacities will not be considered as eligible Project under this scheme. The battery capacity being installed under this tender cannot be used by the developer as part of the installed Project capacity demonstrated under any other tender concluded by any Central or State Agency as on the last date of bid submission of this RfS.
3	1	1.12, Page 11 of RfS	NHPC Limited (hereinafter referred to as the BESS Implementing Agency, or the BIA or NHPC) seeks to utilize energy storage systems, on an "On-Demand" basis, during the evening peak hours of buying entity i.e. Kerala State Electricity Board Limited (hereinafter referred to as KSEBL / Buying Entity). In view of the above, the BIA hereby invites proposals for setting up of InSTS-connected Projects of Standalone Battery Energy Storage Systems (BESS), for an aggregate storage capacity of 500 MWh (125 MW x 4 hrs) to meet evening peak requirements with single cycle charging/discharging operation of BESS with project to be located in the State of Kerala connected with the State Transmission Utility. Being lowest bidder does not entail the bidders to be eligible for issuance of LOAs. LOAs shall be issued for a cumulative capacity of 500MWh after getting confirmation from KSEBL for offtake of power from the BESS at the discovered tariff / fixed cost, arriving a mutual agreement between NHPC and KSEBL for setting up of such BESS capacity in the state of Kerala and the decision of NHPC in this regard shall be final and binding on the bidders.	NHPC Limited (hereinafter referred to as the BESS Implementing Agency, or the BIA or NHPC) seeks to utilize energy storage systems, on an "On-Demand" basis, during the evening peak hours at discretion of buying entity i.e. Kerala State Electricity Board Limited (hereinafter referred to as KSEBL / Buying Entity). In view of the above, the BIA hereby invites proposals for setting up of InSTS-connected Projects of Standalone Battery Energy Storage Systems (BESS), for an aggregate storage capacity of 500 MWh (125 MW x 4 hrs) to meet evening peak grid requirements with single cycle charging/discharging operation as specified in the RfS of BESS with project to be located in the State of Kerala connected with the State Transmission Utility. Being lowest bidder does not entail the bidders to be eligible for issuance of LOAs. LOAs shall be issued for a cumulative capacity of upto 500MWh after getting confirmation from KSEBL for offtake of power from the BESS at the discovered tariff / fixed cost, arriving a mutual agreement between NHPC and KSEBL for setting up of such BESS capacity in the state of Kerala and the decision of NHPC in this regard shall be final and binding on the bidders.
4	1	1.16 Page 12 of RfS	A Single Stage Two Envelope Bidding Procedure will be adopted and will proceed as detailed in the RfS Documents. Bidding will be conducted through the global competitive bidding procedures as per the provisions of ITB and the contract shall be executed as per the provisions of this RfS. It shall be noted that the respective rights of the NHPC and the Bidder/ BESSD shall be governed by the RfS	A Single Stage Two Envelope Bidding Procedure will be adopted and will proceed as detailed in the RfS Documents. Bidding will be conducted through the global competitive bidding procedures as per the provisions of ITB and the contract shall be executed as per the provisions of this RfS. It shall be noted that the respective rights of the NHPC and the Bidder/ BESSD shall be governed by the RfS Documents/ BESSA BESPA signed between the NHPC and the BESSD

			Documents/BESSA signed between the NHPC and the BESSD for the project.	for the project.																																																						
5	2	2.0 Definitions of RfS	New Definition added	“lix. PROJECT CAPACITY” shall mean the maximum AC capacity at the delivery point that can be scheduled on which BESP A shall be signed.																																																						
6	2	2.0 Definitions of RfS (xi)	“BID CAPACITY” shall mean contracted capacity of the Battery Energy Storage System(s) as proposed by the Bidder.	“BID CAPACITY / QUOTED CAPACITY” shall mean aggregate contracted capacity of the Battery Energy Storage System(s) as proposed by the Bidder																																																						
7	3A	3.1 Page 22 of RfS	<p>TOTAL CAPACITY OFFERED: Bids are invited under this RfS for selection of BESS Projects for a total capacity of 125 MW / 500 MWh through e-bidding followed by e-Reverse Auction process. The total capacity of 500 MWh will be awarded for injection at InSTS substations in the 4 (four) locations across the state of Kerala. The break-up of maximum capacities that will be awarded in these 4 locations along with connectivity voltage level, bay & land availability are as follows:</p> <table border="1"> <thead> <tr> <th>Sl. No</th> <th>Location</th> <th>Capacity in MW/M Wh</th> <th>Connectivity Voltage Level (in kV)</th> <th>Bay Availability</th> <th>Land available (in Acre)</th> </tr> <tr> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> <th>(5)</th> <th>(6)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>220kV Substation Areacode</td> <td>30/120</td> <td>110</td> <td>Space Available, New Bay to be Constructed</td> <td>2</td> </tr> <tr> <td>2</td> <td>220kV Substation Pothencode</td> <td>40/160</td> <td>110</td> <td>Space Available, New Bay to be Constructed</td> <td>2</td> </tr> <tr> <td>3</td> <td>110kV Substation Sreekanta</td> <td>40/160</td> <td>110</td> <td>Space Available, New Bay</td> <td>2</td> </tr> </tbody> </table>	Sl. No	Location	Capacity in MW/M Wh	Connectivity Voltage Level (in kV)	Bay Availability	Land available (in Acre)	(1)	(2)	(3)	(4)	(5)	(6)	1	220kV Substation Areacode	30/120	110	Space Available, New Bay to be Constructed	2	2	220kV Substation Pothencode	40/160	110	Space Available, New Bay to be Constructed	2	3	110kV Substation Sreekanta	40/160	110	Space Available, New Bay	2	<p>TOTAL CAPACITY OFFERED: Bids are invited under this RfS for selection of BESS Projects for a total capacity of 125 MW / 500 MWh through e-bidding followed by e-Reverse Auction process. The total capacity of 500 MWh will be awarded for injection at InSTS substations in the 4 (four) locations across the state of Kerala. The break-up of maximum capacities that will be awarded in these 4 locations along with connectivity voltage level, bay & land availability are as follows:</p> <table border="1"> <thead> <tr> <th>Sl. No</th> <th>Location</th> <th>Capacity in MW/M Wh</th> <th>Connectivity Voltage Level (in kV)</th> <th>Bay Availability</th> <th>Land available (in Acre)</th> </tr> <tr> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> <th>(5)</th> <th>(6)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>220kV Substation Areacode</td> <td>30/120</td> <td>110</td> <td>Space Available, New Bay to be Constructed One spare feeder bay available</td> <td>2</td> </tr> <tr> <td>2</td> <td>220kV Substation Pothencode</td> <td>40/160</td> <td>110</td> <td>Space Available, New Bay to be Constructed Two spare feeder bay available. Power transformer to be located at land designated for BESS, approximately 300 meter away</td> <td>2</td> </tr> </tbody> </table>	Sl. No	Location	Capacity in MW/M Wh	Connectivity Voltage Level (in kV)	Bay Availability	Land available (in Acre)	(1)	(2)	(3)	(4)	(5)	(6)	1	220kV Substation Areacode	30/120	110	Space Available, New Bay to be Constructed One spare feeder bay available	2	2	220kV Substation Pothencode	40/160	110	Space Available, New Bay to be Constructed Two spare feeder bay available. Power transformer to be located at land designated for BESS, approximately 300 meter away	2
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9	3A	3.6.1 Page 26 of RfS	<p>The total Project capacity of 125 MW / 500 MWh shall be located in the vicinity of Substations of the STU network as per information mentioned at Clause 3.1 in the State of Kerala. The Project location(s) should be chosen taking cognizance of the provision as per above Clause 3.1 of Section-3A & 7 of Section-3B of the RfS. Land identification and allocation for the Projects will be under scope of the KSEBL. Land will be provided on right-of use basis to the BESSD at an annual rent of Rs. 1/- per project (Proposal) through suitable agreement with KSEBL and the same shall be facilitated by NHPC. The format for Right to use agreement shall be furnished at later stage. The above land area will be given to the BESSD for Right of Use (ROU) within 60 days from Effective Date of the BESPA. In case of any delay in signing of ROU agreement of land to the BESSD, the Financial Closure and Commissioning milestones will be suitably extended. As Battery Energy Storage System is prone to fire hazard, the BESSD shall provide suitable means such as fire barrier between switchyard and BESS to avoid fire to spread from BESS to Yard equipment. The details in respect of sub-station location, type, voltage level, land availability and Contact details of concerned officers from KSEBL etc. for the site visit is attached at Annexure -9.</p>	<p>The total Project capacity of 125 MW / 500 MWh shall be located in the vicinity of Substations of the STU network as per information mentioned at Clause 3.1 in the State of Kerala. The Project location(s) should be chosen taking cognizance of the provision as per above Clause 3.1 of Section-3A & 4 of Section-3B of the RfS. Land identification and allocation for the Projects will be under scope of the KSEBL. Land will be provided on right-of use basis to the BESSD at an annual rent of Rs. 1/- per project (Proposal) through suitable agreement with KSEBL and the same shall be facilitated by NHPC. The format for Right to use agreement shall be furnished at later stage. is attached at Annexure 10. For avoidance of doubt it is clarified that there is no merchant capacity allowable under this RfS. The above land area will be given to the BESSD for Right of Use (ROU) within 60 days from Effective Date of the BESPA. In case of any delay in signing of ROU agreement of land to the BESSD, the Financial Closure and Commissioning milestones will be suitably extended. As Battery Energy Storage System is prone to fire hazard, the BESSD shall provide suitable means such as fire barrier between switchyard and BESS to avoid fire to spread from BESS to Yard equipment. The safety of the equipment / personnel related to BESS operations will be in the scope of the BESSD. KSEBL will in no way be responsible for any loss/ damage due to any fire accidents. Fire Hydrant system with approval from Fire Force Department, Kerala shall be installed in the BESS area. The BESS container area shall be fitted with High mast Thermal & Surveillance Camera and streaming of the same shall be provided at Control Room of respective Sub Station in BESSD's scope. The details in respect of sub-station location, type, voltage level, land availability and Contact details of concerned officers from KSEBL etc. for the site visit is attached at Annexure -9.</p>
10	3A	3.9.3 Page 32 of RfS	<p>The entire cost of construction of infrastructure from the Project upto and including at the Interconnection Point including construction of requisite Bays (as required), including but not limited to the transmission line, maintenance & all cost up to the delivery point shall be borne by the BESSD. The maintenance of the Transmission system up to the interconnection point shall be the responsibility of the BESSD, to be undertaken entirely at its</p>	<p>The entire cost of construction of infrastructure from the Project upto and including at the Interconnection Point including construction of requisite Bays (as required), including but not limited to the transmission line, maintenance & all cost up to the delivery point shall be borne by the BESSD. The maintenance of the Transmission system up to the interconnection point shall be the responsibility of the BESSD, to be undertaken entirely at its cost and expense. The SLDC/Scheduling charges, connectivity and other charges shall be</p>

			<p>cost and expense. The SLDC/Scheduling charges, connectivity and other charges shall be payable by BESSD. The BESSD shall be required to follow the Connectivity Procedure as per the applicable Regulations issued by Appropriate Regulatory Commission / CEA as amended from time to time. The Bidders have to choose the corresponding InSTS substations for Interconnection of the Project to the Grid. Bids indicating substations outside the above locations suggested will be liable for rejection.</p>	<p>payable by BESSD. The BESSD shall be required to follow the Connectivity Procedure as per the applicable Regulations issued by Appropriate Regulatory Commission / CEA as amended from time to time. The Bidders have to connect to the specified choose the corresponding InSTS substations for Interconnection of the Project to the Grid. Connectivity to any other Sub Stations than specified is not permissible as per this RfS. Bids indicating substations outside the above locations suggested will be liable for rejection.</p>
11	3A	3.9.4 Page 32 of RfS	<p>Metering arrangement of each Project shall have to be adhered to in line with relevant clause of the BESP. In case two or more bidders are selected for development of project in a single substation, KSEBL may stipulate scheme with common evacuation infrastructure (Pooling of Projects) with main meter at delivery point and project wise meter at output level of each project. The losses up to delivery point will have to be shared by the developers in the ratio of energy recorded at the project level meters. KSEBL shall stipulate necessary safeguards mandating that no project shall charge their BESS systems while other project(s) sharing common evacuation infrastructure are discharging their BESS systems. In case of sharing of infrastructure, the failure of one BESSD results into interruption, the interruption shall not be attributed to other BESSD. The non-availability during the time to restore the interruption shall be accounted only for BESSD responsible for interruption. The BESS performs regulations in one or several pre-defined ways (e.g. regulating its own output power according to the orders given by SCADA system) to achieve an active power balance between generation and demand to maintain the power system frequency within a reasonable range.</p>	<p>Metering arrangement of each Project shall have to be adhered to in line with relevant clause of the BESP. All relevant parameters of energy injected and drawn by the project shall be measured and continuously recorded by means of a main meter, check meter and standby meter as specified by KSEBL. Power Quality Meter shall also be provided as per extant regulations. In no case two or more than one bidder bidders will be are selected for development of project in a single substation. -, KSEBL may stipulate scheme with common evacuation infrastructure (Pooling of Projects) with main meter at delivery point and project wise meter at output level of each project. The losses up to delivery point will have to be shared by the developers in the ratio of energy recorded at the project level meters. KSEBL shall stipulate necessary safeguards mandating that no project shall charge their BESS systems while other project(s) sharing common evacuation infrastructure are discharging their BESS systems. In case of sharing of infrastructure, the failure of one BESSD results into interruption, the interruption shall not be attributed to other BESSD. The non-availability during the time to restore the interruption shall be accounted only for BESSD responsible for interruption. The losses up to delivery point (In the BESS Side) will have to be borne by the developer. The BESS performs regulations in one or several pre-defined ways (e.g. regulating its own output power according to the orders given by SCADA system) to achieve an active power balance between generation and demand to maintain the power system frequency within a reasonable range.</p>

12	3A	3.9.5 Page 32-33 of RfS	For transmission of power during charging/discharging of the BESS, InSTS transmission charges and losses applicable as per the regulations, will be borne by the Buying Entity. All expenses including wheeling charges and losses in relation to the transmission and distribution beyond the Metering Point shall be borne by the Buying Entity. Arrangements shall be put in place prior to commissioning of project as regards the methodology for billing these expenses directly to the Buying Entity.	For transmission of power during charging/discharging of the BESS, InSTS transmission charges and losses applicable as per the regulations, on the Grid side till the interconnecting point as per the extant regulations , will be borne by the Buying Entity. All expenses including wheeling charges and losses in relation to the transmission and distribution beyond the Metering Point on the Grid side shall be borne by the Buying Entity. Arrangements shall be put in place prior to commissioning of project as regards the methodology for billing these expenses directly to the Buying Entity.
13	3A	3.9.6 Page 33 of RfS	The BESSD shall comply with CERC/SERC regulations on Forecasting, Scheduling and Deviation Settlement, as applicable. The scheduling of power to/from the Project as per the applicable regulation shall be decided by NHPC/Buying Entity. However, any DSM penalties due to violation of the schedule of charging or discharging of the BESS shall be to the account of the BESSD. DSM penalties, if any, shall be levied separately on the respective entities as applicable, at their respective ends for the charging and discharging activities	The BESSD shall comply with CERC/SERC regulations on Forecasting, Scheduling and Deviation Settlement, as applicable. The scheduling of power to/from the Project as per the applicable regulation shall be decided by NHPC KSEBL , the Buying Entity. However, any DSM penalties due to violation of the schedule of charging or discharging of the BESS shall be to the account of the BESSD. DSM penalties, if any, shall be levied separately on the respective entities as applicable, at their respective ends for the charging and discharging activities.
14	3A	New Clause 3.10 Page 33 of RfS	Deleted	The extension of 110 / 33 kV Bay / Bus / Earth Mat / Addition of Bay equipments in the existing bay shall be in conformance to the General Layout of the substation and shall be constructed after obtaining approval of the Deputy Chief Engineer of the concerned Transmission Circle of KSEBL. The scheme of Protection shall also be similarly got approved and the status of Interconnecting Circuit Breaker, Isolators shall be made available for integrating to the SCADA of the Sub-Station. The Current, Voltage and Power parameters at 110kV Bay shall be provided available for integrating to the SCADA of the Sub-Station. The specifications of the Interconnecting Transformer shall be approved by Transmission wing of KSEBL. The timeline for approval shall be thirty days from submission of application in this regard.
15	3A	3.12.4 .1 Page	Second Envelope (containing first round tariff bid) of only those bidders shall be opened who are found to be technically qualified. After evaluation of technical bid, if a	Second Envelope (containing first round tariff bid) of only those bidders shall be opened who are found to be technically qualified. After evaluation of technical bid, if a bidder is found to be qualified

		34 of RfS	bidder is found to be qualified for lower capacity of Projects than that applied, the Price quoted by the bidder (i.e. first round tariff) in the Second envelope will be considered valid for lower capacity of Projects and the bidder will have to accept the lower capacity of projects than applied for, if found successful after closing of Reverse Auction. However, if a bidder is found to be qualified for less than the capacity at each location as per qualifying requirement then they shall be considered disqualified for this tender.	for lower capacity of Projects than that applied, the Price quoted by the bidder (i.e. first round tariff) in the Second envelope will be considered valid for lower capacity of Projects and the bidder will have to accept the lower capacity of projects than applied for, if found successful after closing of Reverse Auction. However, if a bidder is found to be qualified for less than the capacity at each location as per qualifying requirement then they shall be considered disqualified for this tender.
16	3A	3.12.4 .3 Page 36 of RfS	Location wise E-RA shall be implemented at Application Service Provider's Portal..... If the first round tariff bid is same for two or more bidders, then the bidder with higher net worth shall be given higher ranking. In case the net worth of bidders are also same, then relative ranking shall be decided.....	<p>If the first round tariff bid is same for Out of all qualified bidders, short-listing will be done for Reverse Auction as under: A. When cumulative capacity of technically qualified bidders of particular location is >1.25 x total offered capacity for particular location as per Clause 3.1 above. All the qualified bidders at each location shall be invited for Reverse Auction other than one lowest ranked bidder based on First Round Tariff bid i.e. the bidder quoting the highest first round tariff (i.e. H1) subject to the condition that the H1 bidder of each location (whose derived Tariff as detailed above is highest) will not be allowed to participate in further Reverse Auction process provided minimum three bidders are left in that location after removal of H1 bidder.the cumulative capacity remains greater than 1.25x total offered capacity for particular location as per Clause 3.1. In case, after removal of H1 bidder, the cumulative capacity of technically qualified bidders becomes less than 1.25 times total offered capacity for particular location as per Clause 3.1, then all the technically qualified bidders will participate in reverse auction. B. When cumulative capacity of technically qualified bidders of particular location is <= 1.25 x total offered capacity for particular location as per Clause 3.1 above. All the technically qualified bidders will be shortlisted for Reverse Auction for a particular location. For the purpose of determination of the lowest Ranked bidder, if there is a tie among two or more bidders based on First Round Tariff Bid, the bidder with the lowest net worth among these bidders will be</p>

				<p>considered having lowest rank than the other bidder(s). At the start of the reverse auction process, the first round tariff bid along with the qualified capacity of location (s) (lower of the applied capacity of projects or technically qualified for as per Financial criteria) of short-listed bidders shall be fed as their first quoted tariff and Project(s).</p> <p>At the start of the reverse auction process location wise, the first round tariff bid along with the qualified capacity of location (s) (lower of the applied capacity of projects or technically qualified for as per Financial criteria) of short-listed bidders shall be fed as their first quoted tariff and Project(s).</p>
17	3A	3.12.4 .4 Page 38 of RfS	<p>.....</p> <p>.....</p> <p>Note: 1 NHPC reserves the right to verify the documents furnished by the bidders at the time of submission of RfS including availability of the Net Worth and other Financial Criteria to the extent claimed in the RfS with the original documents and bank statements and the shareholding of the Project Company along with a copy of complete documentary evidence supported with originals at any stage from evaluation upto the expiry of BESP. Before signing the BESP, NHPC will ask the successful Bidder to furnish the Memorandum & Articles of Association of Project Company/Project Developer/Solar Power Generator (highlighting the relevant provision of Power / Energy / Renewable Energy / Solar Power Plant development /Battery Energy Storage System Developer) in case the same was not available in the Memorandum & Articles of Association of the Bidder at the time of submission of Bid. If at any stage it is found that the documents furnished by the bidders during RfS are misleading or misrepresented in any way then the EMD shall be forfeited and the agency shall be blacklisted for an appropriate period decided by NHPC.</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>Note: 1 NHPC reserves the right to verify the documents furnished by the bidders at the time of submission of RfS including availability of the Net Worth and other Financial Criteria to the extent claimed in the RfS with the original documents and bank statements and the shareholding of the Project Company along with a copy of complete documentary evidence supported with originals at any stage from evaluation upto the expiry of BESP. Before signing the BESP, NHPC will ask the successful Bidder to furnish the Memorandum & Articles of Association of Project Company / Project Developer/Solar Power Generator (highlighting the relevant provision of Power / Energy / Renewable Energy /Solar Power Plant development Battery Energy Storage System Developer) in case the same was not available in the Memorandum & Articles of Association of the Bidder at the time of submission of Bid. If at any stage it is found that the documents furnished by the bidders during RfS are misleading or misrepresented in any way then the EMD shall be forfeited and the agency shall be blacklisted for an appropriate period decided by NHPC.</p>

18	3A	3.14.2 Page 39 of RfS	The BESSD shall submit a detailed completion Schedule for the Project prior to the signing of BESPA. Broad details to be captured in the Schedule are the land procurement, grid connectivity order, supply and erection status of various Project components; financial arrangement/ tie up etc. The BESSD shall also submit the progress report to NHPC in a form acceptable to NHPC and shall contain percentage completion achieved compared with the planned percentage completion for each activity, and any such other information as required by NHPC.	The BESSD shall submit a detailed completion Schedule for the Project prior to the signing of BESPA. Broad details to be captured in the Schedule are the land taken over procurement , grid connectivity order, supply and erection status of various Project components; financial arrangement/ tie up etc. The BESSD shall also submit the progress report to KSEBL & NHPC in a form acceptable to NHPC / KSEBL and shall contain percentage completion achieved compared with the planned percentage completion for each activity, and any such other information as required by NHPC.
19	3A	3.14.4 Page 39 of RfS	The BESPA shall be valid for a period of 12 years from the SCD of the Project or the date of full commissioning of the Project, whichever is later. Any extension of the BESPA period beyond the term of the BESPA shall be through mutual agreement between the BESSD and the BIA.	The BESPA shall be valid for a period of 12 years from the SCD of the Project or the date of full commissioning of the Project, whichever is later. Any extension of the BESPA period beyond the term of the BESPA shall be through mutual agreement between the BESSD and the BIA. BESPA shall be extended for a period upto 5 years at tariff not more than 60% of the BESPA as mutually agreed between KSEBL, BESSD and NHPC, provided the Minimum Dispatchable Energy after 10 years is more than 80% of the Contracted Capacity and the Year to year capacity degradation remains less than 2.5% after the twelve year period with RtE remaining more than 85%. Any extension of BESPA / BESSA shall be subject to the approval of KSERC.
20	3A	3.27.1 Page 52 of RfS	The Projects shall achieve Financial Closure within the date as on 6 months prior to SCD or Extended SCD as the case may be.	The Projects shall achieve Financial Closure within the date as on 6 months prior to SCD or Extended SCD as the case may be 9 months of the Date of Signing of the Battery Energy Storage Purchase Agreement.
21	3B	1.1 Page 57 of RfS	Under this RfS, the BESSD shall be required to set up a Battery Energy Storage System (BESS), with the primary objective of making the energy storage facility available to the NHPC for charging/discharging of the BESS, on an “on demand” basis. Detailed criteria for performance are elaborated in Clause 6 of the RfS.	Under this RfS, the BESSD shall be required to set up a Battery Energy Storage System (BESS), with the primary objective of making the energy storage facility available to the NHPC KSEBL, the Buying Entity for charging/discharging of the BESS, on an “on demand” basis. Detailed criteria for performance are elaborated in Clause 6 of the RfS.

22	3B	1.2 Page 57 of RfS	Setting up of the BESS and interconnection of the BESS with the InSTS network will be under the scope of the BESSD. This RfS is technology agnostic on the nature of battery storage system being opted by the BESSD, as long as it meets the definition of BESS under this RfS and the required performance criteria under the RfS and BESPA.	Setting up of the BESS and interconnection of the BESS with the InSTS network and entire Operation & maintenance including safety of the equipment / personnel will be under the scope of the BESSD. This RfS is technology agnostic on the nature of battery storage system being opted by the BESSD, as long as it meets the definition of BESS under this RfS and the required performance criteria under the RfS and BESPA.																																										
23	3B	1.3 Page 57 of RfS	For the capacity under contract with NHPC, charging and discharging of the system has been provisioned to be tied up with KSEBL / Buying Entity. The Buying Entity shall secure the charging power for the BESS project preferably from renewable energy sources (“BESS charging source”) and meet the remaining requirement through any other source.	For the capacity under contract with NHPC, charging and discharging of the system has been provisioned to be tied up with KSEBL / Buying Entity. The Buying Entity shall secure the charging power for the BESS project preferably from renewable energy sources (“BESS charging source”) and meet the remaining requirement through any other source. Scheduling of Charging and discharging of the system will be under the scope of KSEBL.																																										
24	3B	2.1 Page 57 of RfS	<p>Selection of BESS Projects for a total capacity of 125 MW /500 MWh will be carried out through e-bidding followed by e-Reverse Auction process. The total capacity of 500 MWh will be awarded for injection at InSTS substations in the 4 (four) locations across Kerala. The breakup of maximum capacities that will be awarded in these 4 locations along with connectivity voltage level, bay & land availability are as follows:</p> <table border="1" data-bbox="464 1003 1136 1341"> <thead> <tr> <th>Sl. No.</th> <th>Location</th> <th>Capacity in MW/M Wh</th> <th>Connectivity Voltage Level (in kV)</th> <th>Bay Availability</th> <th>Land available (in Acre)</th> </tr> <tr> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> <th>(5)</th> <th>(6)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>220kV Substation Areacode</td> <td>30/120</td> <td>110</td> <td>Space Available, New Bay to be Constructed</td> <td>2</td> </tr> </tbody> </table>	Sl. No.	Location	Capacity in MW/M Wh	Connectivity Voltage Level (in kV)	Bay Availability	Land available (in Acre)	(1)	(2)	(3)	(4)	(5)	(6)	1	220kV Substation Areacode	30/120	110	Space Available, New Bay to be Constructed	2	<p>Selection of BESS Projects for a total capacity of 125 MW /500 MWh will be carried out through location wise e-bidding followed by e-Reverse Auction process. The total capacity of 500 MWh will be awarded for injection at InSTS substations in the 4 (four) locations across Kerala. The break-up of maximum capacities that will be awarded in these 4 locations along with connectivity voltage level, bay & land availability are as follows:</p> <table border="1" data-bbox="1167 971 1955 1367"> <thead> <tr> <th>Sl. No.</th> <th>Location</th> <th>Capacity in MW/M Wh</th> <th>Connectivity Voltage Level (in kV)</th> <th>Bay Availability</th> <th>Land available (in Acre)</th> </tr> <tr> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> <th>(5)</th> <th>(6)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>220kV Substation Areacode</td> <td>30/120</td> <td>110</td> <td>Space Available, New Bay to be Constructed One spare feeder bay available</td> <td>2</td> </tr> <tr> <td>2</td> <td>220kV Substation Pothencode</td> <td>40/160</td> <td>110</td> <td>Space Available, New Bay to be Constructed Two spare feeder bay available. Power transformer to be located at land designated for BESS, approximately 300</td> <td>2</td> </tr> </tbody> </table>	Sl. No.	Location	Capacity in MW/M Wh	Connectivity Voltage Level (in kV)	Bay Availability	Land available (in Acre)	(1)	(2)	(3)	(4)	(5)	(6)	1	220kV Substation Areacode	30/120	110	Space Available, New Bay to be Constructed One spare feeder bay available	2	2	220kV Substation Pothencode	40/160	110	Space Available, New Bay to be Constructed Two spare feeder bay available. Power transformer to be located at land designated for BESS, approximately 300	2
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			3	110kV Substation Sreekantapuram	40/160	110	Space Available, New Bay to be Constructed	2		3	110kV Substation Sreekantapuram	40/160	110	Space Available, New Bay to be Constructed	2
			4	110kV Substation Mulleria	15/60	33	Space Available, New Bay to be Constructed	1		4	110kV Substation Mulleria	15/60	33	Space Available, New Bay to be Constructed	1
			Total Capacity		125/500					Total Capacity		125/500			
25	3B	2.2 Page 58 of RfS	The selection of Project Developers will be carried out based on the Contracted Capacity offered by the Bidders. In this context, the term "Project" used anywhere in the RfS, BESPA, will solely mean the BESS, set up by the BESSD to make available the Contracted Capacity as agreed to in the BESPA.						The selection of Project Developers will be carried out based on the Tariff / Annualized capacity Charges Contracted Capacity offered by the Bidders. In this context, the term "Project" used anywhere in the RfS, BESPA, will solely mean the BESS, set up by the BESSD to make available the Contracted Capacity as agreed to in the BESPA. Each Project shall be allocated to the lowest Qualified Bidder at a particular Sub-station as per the respective capacity as indicated above. The Project shall be connected to the Interconnection Points, as in table 2.1 above. The BESSDs shall demonstrate the Contracted Capacity at the Interconnection Point.						
26	3B	3.1 Page 58 of RfS	A Bidder, including its Parent, Affiliate or Ultimate Parent or any Group Company shall submit bids offering contracted Capacity of of either one project or multiple projects in any combination out of total capacity of 125 MW / 500 MWh in the prescribed formats. The Bidder may quote different tariffs / fixed cost for the different locations as identified in the Covering Letter (Format 6.1 of the RfS). Financial bid evaluation & e-RA will be done individually for each location, based on the number of Bidders and capacity specified in each location. The Project Capacity to be quoted shall be in the form of "x" MW/"4x" MWh, i.e. the BESS system shall be rated for 4 hours charging and 4 hours discharging in single cycle.						A Bidder, including its Parent, Affiliate or Ultimate Parent or any Group Company shall submit bids offering contracted Capacity of of either one project or multiple projects in any combination out of total capacity of 125 MW / 500 MWh in the prescribed formats. The Bidder may quote different tariffs / fixed cost for the different locations as identified in the Covering Letter (Format 6.1 of the RfS). Financial bid evaluation & e-RA will be done individually for each location, based on the number of Bidders and capacity specified in each location. For avoidance of doubt, it is clarified that the project at a particular location will be awarded to a single bidder only. The Project Capacity to be quoted shall be in the form of "x" MW/"4x" MWh, i.e. the BESS system shall be rated for 4 hours charging and 4 hours discharging 4 hours discharging in single cycle as specified in this RfS						

		
27	3B	4.1 Page 59 of RfS	<p>The total Project capacity of 125 MW / 500 MWh shall be located in the vicinity of Substations of the STU network as per information mentioned at Clause 3.1 above in the State of Kerala. The Project location(s) should be chosen taking cognizance of the provision as per Clause 3.1 & 3.6.1 Section -3A of the RfS. Land identification and allocation for the Projects will be under scope of the KSEBL. Land will be provided on right-of use basis to the BESSD at an annual rent of Rs.1/- per project (proposal) through suitable agreement with KSEBL, and the same shall be facilitated by NHPC. The format for Right to use agreement shall be furnished at later stage.</p> <p>.....</p> <p>As Battery Energy Storage System is prone to fire hazard, the BESSD shall provide suitable means such as fire barrier between switchyard and BESS to avoid fire to spread from BESS to Yard equipment.</p> <p>.....</p>	<p>The total Project capacity of 125 MW / 500 MWh shall be located in the vicinity of Substations of the STU network as per information mentioned at Clause 3.1 above in the State of Kerala. The Project location(s) should be chosen taking cognizance of the provision as per Clause 3.1 & 3.6.1 Section -3A of the RfS. Land identification and allocation for the Projects will be under scope of the KSEBL. Land will be provided on right-of use basis to the BESSD at an annual rent of Rs.1/- per project (proposal) through suitable agreement with KSEBL, and the same shall be facilitated by NHPC. The format for Right to use agreement shall be furnished at later stage is attached at Annexure-10.</p> <p>.....</p> <p>As Battery Energy Storage System is prone to fire hazard, the BESSD shall provide suitable means such as fire barrier between switchyard and BESS to avoid fire to spread from BESS to Yard equipment. The safety of the equipment / personnel related to BESS operations will be in the scope of the BESSD. KSEBL / NHPC will in no way be responsible for any loss/ damage due to any fire accidents. Fire Hydrant system with approval from Fire Fore Department, Kerala shall be installed in the BESS area. The BESS container area shall be fitted with High mast Thermal & Surveillance Camera and streaming of the same shall be provided at Control Room of the SubStation, where the project is located. BESSD is required to construct the approach road separately for accessing the Project, without hindering the O&M activities of identified sub-stations. Necessary extension to 110 kV / 33KV bay , will be in the scope of the BESSD.</p> <p>.....</p>
28	3B	5.4 Page 60 of RfS	<p>Metering arrangement of each Project shall have to be adhered to in line with relevant clause of the BESP. In case two or more bidders are selected for development of project in a single substation, KSEBL may stipulate scheme with common evacuation infrastructure (Pooling of Projects)</p>	<p>Metering arrangement of each Project shall have to be adhered to in line with relevant clause of the BESP. All relevant parameters of energy injected and drawn by the project shall be measured and continuously recorded by means of a main meter, check meter and standby meter as specified by KSEBL. Power Quality Meter shall also</p>

			<p>with main meter at delivery point and project wise meter at output level of each project. The losses up to delivery point will have to be shared by the developers in the ratio of energy recorded at the project level meters. KSEBL shall stipulate necessary safeguards mandating that no project shall charge their BESS systems while other project(s) sharing common evacuation infrastructure are discharging their BESS systems. In case of sharing of infrastructure, the failure of one BESSD results into interruption, the interruption shall not be attributed to other BESSD. The non-availability during the time to restore the interruption shall be accounted only for BESSD responsible for interruption. The BESS performs regulations in one or several predefined ways (e.g. regulating its own output power according to the orders given by SCADA system) to achieve an active power balance between generation and demand to maintain the power system frequency within a reasonable range.</p>	<p>be provided as per extant regulations. In no case two or more than one bidder bidders are will be selected for development of project in a single substation. ., KSEBL may stipulate scheme with common evacuation infrastructure (Pooling of Projects) with main meter at delivery point and project wise meter at output level of each project. The losses up to delivery point will have to be shared by the developers in the ratio of energy recorded at the project level meters. KSEBL shall stipulate necessary safeguards mandating that no project shall charge their BESS systems while other project(s) sharing common evacuation infrastructure are discharging their BESS systems. In case of sharing of infrastructure, the failure of one BESSD results into interruption, the interruption shall not be attributed to other BESSD. The non-availability during the time to restore the interruption shall be accounted only for BESSD responsible for interruption. The BESS performs regulations in one or several pre-defined ways (e.g. regulating its own output power according to the orders given by SCADA system) to achieve an active power balance between generation and demand to maintain the power system frequency within a reasonable range.</p>
29	3B	5.5 Page 60 of RfS	<p>For transmission of power during charging/discharging of the BESS, InSTS transmission charges and losses applicable as per the regulations, will be borne by the Buying Entity. All expenses including wheeling charges and losses in relation to the transmission and distribution beyond the Metering Point shall be borne by the Buying Entity. Arrangements shall be put in place prior to commissioning of project as regards the methodology for billing these expenses directly to the Buying Entity</p>	<p>For transmission of power during charging/discharging of the BESS, InSTS transmission charges and losses applicable as per the regulations, on the Grid side upto the interconnecting point, will be borne by the Buying Entity. All expenses including wheeling charges and losses in relation to the transmission and distribution up to the Metering Point on the Grid side beyond the Metering Point shall be borne by the Buying Entity. Arrangements shall be put in place prior to commissioning of project as regards the methodology for billing these expenses directly to the Buying Entity.</p>
30	3B	6.1 (a) Page 61 of RfS	<p>The Contracted Capacity of the Project shall be in terms of "MW". KSEBL's obligation shall be to supply charging power and for off-take of entire Contracted Capacity and energy at Delivery point</p>	<p>The Contracted Capacity of the Project shall be in terms of "MW". KSEBL's obligation shall be to schedule & supply charging power and for off-take of entire Contracted Capacity and energy at Delivery point</p>

31	3B	6.1 (e) Page 62 of RfS	<p>The BESSD shall make the BESS available for 1 operational cycle per day, i.e. one complete charge-discharge cycles per day. Following provisions shall be applicable on the entire Capacity guaranteed to be off taken by KSEBL:</p> <p>.....</p> <p>....</p>	<p>The BESSD shall make the BESS available for 1 operational cycle per day, i.e. one complete charge-discharge cycles per day. Provided that KSEBL, at its discretion, can discharge the stored energy in one or two sessions, but not more than two. The discharge may also be performed at below the rated power, stretching upto 8 Hours. It is hereby clarified that the BESS should be designed to provide a minimum of 4 Hours of discharging capacity at rated power. However, KSEBL, at its sole discretion, can schedule the discharging of the BESS in one or two sessions each day, at rated power or stretching upto 8 Hours when discharged below rated power.</p> <p>Illustration: (At rated Power)</p> <table border="0" data-bbox="1167 610 1955 773"> <tr> <td>Sl No:</td> <td>Session -1</td> <td>Session -2</td> </tr> <tr> <td>1</td> <td>4 Hours</td> <td>--</td> </tr> <tr> <td>2</td> <td>3 Hours</td> <td>1 Hour</td> </tr> <tr> <td>3</td> <td>2 Hours</td> <td>2 Hours</td> </tr> <tr> <td>4</td> <td>1 Hour</td> <td>3 Hours</td> </tr> </table> <p>Similarly, the charging cycle may, if required, shall be performed in a single session or in two sessions, at rated power or stretching upto 10 Hours when charged at below rated power, at sole discretion of KSEBL.</p> <p>Following provisions shall be applicable on the entire Capacity guaranteed to be off taken by KSEBL:</p> <p>.....</p>	Sl No:	Session -1	Session -2	1	4 Hours	--	2	3 Hours	1 Hour	3	2 Hours	2 Hours	4	1 Hour	3 Hours
Sl No:	Session -1	Session -2																	
1	4 Hours	--																	
2	3 Hours	1 Hour																	
3	2 Hours	2 Hours																	
4	1 Hour	3 Hours																	
32	3B	6.1 e.i Page 62 of RfS	<p>The procurement shall be in power (MW) terms. The BESSD shall install, operate and maintain the BESS to offer facility to Buying Entity to charge and to discharge the BESS on an “on demand” basis. The BESSD shall guarantee a minimum system availability of 95% on monthly basis. The BESSD shall pay the liquidated damages for such shortfall and shall duly pay such damages to the BIA to enable NHPC to remit the amount to Buying Entity under BESSA. Amount of such liquidated damages shall be twice the Capacity Charges for the capacity not made available</p>	<p>The procurement shall be in power (MW) terms. The BESSD shall install, operate and maintain the BESS to offer facility to KSEBL, the Buying Entity to charge and to discharge the BESS on an “on demand” basis. The BESSD shall guarantee a minimum system availability of 95% on monthly Annual basis for charging cycles. The BESSD shall pay the liquidated damages for such shortfall and shall duly pay such damages to the BIA to enable NHPC to remit the amount to Buying Entity under BESSA. Amount of such liquidated damages shall be 1.5 times twice the Capacity Charges for the capacity not made available. The BESSD shall declare system availability on Day Ahead Basis.</p>															

33	3B	6.1 e.ii Page 63 of RfS	<p>.....</p> <p>For a given BESPAs, the Monthly availability guarantee shall commence from the date of commissioning of the system and shall be calculated as below: Monthly System Availability = Mean of the System availabilities of all time-blocks during the month in which the off-taker has scheduled power for charging/ discharging the BESS.</p> <p>Where, System Availability in a time-block= Actual Injection/Drawl MUi (A) / Scheduled Injection /Drawl MUi (B), where a) i refers to the ith time-block in the year where Scheduled Injection/Drawl MUi \neq 0. b) Actual Injection/Drawl MUi is the Actual Energy for Charging/Discharging in the ith time-block, in MUs c) Scheduled Injection/Drawl MUi is the Energy Scheduled for Charging/ Discharging in the ith time-block, in MUs d).....</p> <p>System Monthly availability shall be calculated as per above. The liquidated damages for system availability below 95% shall be settled on monthly basis and if it is not able to settle in the same/ current month, it will be carried forward for settlement in subsequent month(s).</p>	<p>.....</p> <p>For a given BESPAs, the Annual Monthly availability guarantee for charging periods shall commence from the date of commissioning of the system and shall be calculated as below: Monthly Annual System Availability = Mean of the System availabilities of all time-blocks during the year month in which KSEBL, the off-taker has scheduled power for charging/discharging the BESS.</p> <p>Where, System Availability in a time-block= Actual Injection/Drawl MUi (A) / Scheduled Injection /Drawl MUi (B), where a) i refers to the ith time-block in the year where Scheduled Injection/Drawl MUi \neq 0. b) Actual Injection/Drawl MUi is the Actual Energy for Charging/Discharging in the ith time-block, in MUs c) Scheduled Injection/Drawl MUi is the Energy Scheduled for Charging/ Discharging in the ith time-block, in MUs d).....</p> <p>System Annual Monthly availability for charging cycles shall be calculated as per above. The liquidated damages for system availability below 95% shall be settled on monthly basis and if it is not able to settle in the same/ current month, it will be carried forward for settlement in subsequent month(s). If the Annual un-availability of 5% is already reached during part of a year, the Monthly Capacity Charges will be paid only after deducting the Penalty towards shortfall in Availability.</p>
34	3B	6.1 e.iii Page 64 of RfS	<p>.....</p> <p>(a)For RtE <70%, there shall be a liquidated damage @ 1.5 times APPC tariff of previous financial year of KSEBL levied upon the excess conversion losses, considering system RtE = 85%.</p> <p>(b).....</p> <p>.....</p>	<p>.....</p> <p>(a)For RtE <70%, there shall be a liquidated damage @1.5 times APPC tariff of previous financial year of KSEBL levied upon the excess conversion losses, considering system RtE = 85% and tariff payment for the corresponding month shall not be made to the BESSD.</p> <p>(b).....</p> <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 6.1.a. above. • The BESSD shall take separate, metered connection for the Auxiliary Power load of BESS OR The BESSD can draw auxiliary power from Interconnection point. Separate meter would be arranged by Developer to measure Auxiliary consumption and that would be billed by KSEBL. 	<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 6.1.a. above. • The BESSD shall take separate, metered connection for the Auxiliary Power load of BESS OR The BESSD can draw auxiliary power from Interconnection point. Separate meter would be arranged by Developer to measure Auxiliary consumption and that would be billed by KSEBL. • Line Extension / Arrangement for power for auxiliary consumption is under scope of the BESSD
35	3B	6.1 e. v Page 65 of RfS	<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. However, the energy discharged from the battery shall not require to be greater than the nameplate watt-hour rating specified herein. 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 committed at the Average Market Clearing Price (MCP) in peak hour (18:30Hrs22:30Hrs) in Day Ahead Market (DAM) of Power Exchange for corresponding billing month period.</p>
36	3B	6.1 e. vi Page 66 of RfS	<p>Buying Entity shall, in accordance with Applicable Laws and Regulations thereunder, issue instructions to the BESSD through NHPC for despatch of electricity to the Grid during such period and in such volume as it may specify in its instructions. The BESSD shall clearly specify the maximum recovery times required to restore the BESS for functional availability between duty cycles. The maximum allowed</p>	<p>Buying Entity shall, in accordance with Applicable Laws and Regulations thereunder, issue instructions to the BESSD, with copy for information to the through NHPC for despatch of electricity to the Grid during such period and in such volume as it may specify in its instructions. The BESSD shall clearly specify the maximum recovery times required to restore the BESS for functional availability between duty cycles. The maximum allowed cooling time between Charge to</p>

			cooling time between Charge to Discharge or Discharge to charge would be 1 hr	Discharge or Discharge to charge would be 1 hr.
37	3B	6.1 e vii (d) New clause Page 66 of RfS	New Clause added	The Scheduled maintenance must be carried out during monsoon season, subject to prior approval from KSEBL
38	3B	6.2 i Page 67 of RfS	<p>Shortfall in demonstrating minimum Availability: Subsequent to SCD of full Contracted Capacity, in case the Monthly 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 provided in the BESPAs to NHPC to enable NHPC to remit the amount to Buying Entity. Liquidated damages on account of shortfall in meeting the minimum system Availability criteria as per Clause 6.1.e.i., will be computed as follows: Liquidated damages in Rs.= (A – B) x C x D x 2 where, A is Guaranteed Monthly Availability as per Clause 6.1.e.i. above;</p> <p>B is Actual Monthly System Availability, as calculated as per Clause 6.1.e.ii. above;</p> <p>C is BESS Power Capacity;</p> <p>D is Capacity Charges Rs/MW/month as discovered through bidding process;</p> <p>.....</p>	<p>Shortfall in demonstrating minimum Availability: Subsequent to SCD of full Contracted Capacity, in case the Monthly 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 provided in the BESPAs to NHPC to enable NHPC to remit the amount to Buying Entity.</p> <p>Liquidated damages on account of shortfall in meeting the minimum system Availability criteria as per Clause 6.1.e.i., will be computed as follows:</p> <p>Liquidated damages in Rs.= (A – B) x C x D x n x 1.5 2 where,</p> <p>n= 12</p> <p>A is Guaranteed Monthly Annual Availability as per Clause 6.1.e.i. above;</p> <p>B is Actual Monthly Annual System Availability, as calculated as per Clause 6.1.e.ii. above;</p> <p>C is BESS Power Capacity;</p> <p>D is Capacity Charges Rs/MW/month as discovered through bidding process;</p> <p>In case of the BESS failing to meet minimum 50% of the stipulated availability applicable for a particular Contract Year as per Clause 6.1.e (iv) above, for acumulative period of 2 years or more during</p>

				<p>the Term of the BESPA, the shortfall shall be considered as an Event of Default under the BESPA, and failure to rectify this Event will result in termination of the BESPA. In case the BESSD fails to meet the monthly RtE demonstration as per Clause 6.1.e.iii above, additional Liquidated Damages for the unavailability of the required minimum RtE shall be applicable for the entire month.</p> <p>.....</p>
39		6.2 iii New clause Page 67 of RfS	New Clause added	Shortfall in supply of committed energy as per provision of the RfS Clause 6.1.e (v)
40	3B	7 Page 68 of RfS	The Commissioning of the Project shall be carried out by the BESSD in line with the procedure as per the BESPA. The BIA may authorize any individual or committee or organization to witness and validate the commissioning procedure on site. Commissioning certificates shall be issued by the BIA after successful commissioning. The BESSD shall obtain necessary safety clearances from the Central Electricity Authority/CEIG/STU prior to commissioning of the Project.	The Commissioning of the Project shall be carried out by the BESSD in line with the procedure as per the BESPA. The BESSD shall commission the Project in line with provisions of the SERC/CERC (Indian Electricity Grid Code) Regulations, 2023, as amended from time to time. In line with this regulation, the BESSD proposing the Project, or its part, for commissioning, shall give to the BIA and the Buying Entity, a preliminary notice not later than 60 days prior and advance notice not later than 30 days prior to the proposed commissioning date. The BIA may authorize any individual or committee or organization to witness and validate the commissioning procedure on site. Commissioning certificates shall be issued by the BIA after successful commissioning. The BESSD shall obtain necessary safety clearances from the Central Electricity Authority/CEIG/STU prior to commissioning of the Project
41	3B	7.2 a. Page 68 of RfS	The Scheduled Commissioning Date (SCD) for commissioning of the full capacity of the Project shall be the date as on 18 months from the Effective Date of BESPA (for e.g. if Effective Date of the BESPA is 05.06.2025, then SCD shall be 05.12.2026).	The Scheduled Commissioning Date (SCD) for commissioning of the full capacity of the Project shall be the date as on 18 15 months from the Effective Date of BESPA (for e.g. if Effective Date of the BESPA is 05.06.2025, then SCD shall be 05.12.2026 05.09.2026).
42	3B	9 Page 70 of	The BESSD shall be permitted for full commissioning as well as part-commissioning of the Project even prior to the SCD. Early commissioning of the Project will be allowed solely at	The BESSD shall be permitted for full commissioning as well as part-commissioning of the Project even prior to the SCD. Early commissioning of the Project will be allowed solely at the risk and

		RfS	the risk and cost of the BESSD, and the NHPC may purchase the capacity from such early commissioned Project at the BESPA charges (for the Contracted Capacity), and KSEBL/Buying Entity shall purchase the same at the BESPA tariff plus NHPC's facilitation charges in the form of trading margin. The developer shall give fifteen (15) days advance notice to the Procurer(s) regarding the advance commissioning of full or part capacity. The Procurer(s) shall give acceptance for availing such capacity within 15 days from the date of service of notice.	cost of the BESSD, and the NHPC may purchase the capacity from such early commissioned Project at the BESPA charges (for the Contracted Capacity), and KSEBL/Buying Entity shall purchase the same at the BESPA tariff plus NHPC's facilitation charges in the form of trading margin. KSEBL shall provide in principle acceptance to offtake the early commissioned BESS capacity at BESPA Tariff, subject to approval from KSERC. The developer shall give fifteen (15) days advance notice to the Procurer(s) regarding the advance commissioning of full or part capacity. The Procurer(s) shall give acceptance for availing such capacity within 15 days from the date of service of notice.
43	3B	10.8 Page 72 of RfS	The BIA will have the right to recover the VGF disbursed through encashment of BG, if the BESPA gets terminated within the first 5 years after COD of the Project, on account of reasons solely attributable to the BESSD. Irrespective of the year of termination within the first 5 years after COD, the VGF amount to be recovered will be fixed as the amount disbursed until COD plus interest @ SBI-MCLR (1 Year) plus 5 percent, as existing on the date of disbursement, accrued from the date of disbursement on the disbursed amount.	The BIA will have the right to recover the VGF disbursed through encashment of BG, if the BESPA gets terminated within the first 5 years after COD of the Project, on account of reasons solely attributable to the BESSD. Irrespective of the year of termination within the first 5 years after COD, the VGF amount to be recovered will be fixed as the amount disbursed until COD till date of termination of BESPA plus interest @ SBI-MCLR (1 Year) plus 5 percent , as existing on the date of disbursement, accrued from the date of disbursement on the disbursed amount .
44	6	Format 6.4 of RfS Format for Board Resolution	The Board after discussions, at the 1.Resolved that..... 2. Further resolved that	The Board after discussions, at the 1. Resolved that..... 2. Further resolved that..... 3. FURTHER RESOLVED THAT approval of the Board be and is hereby accorded to M/s. [Insert name of Bidding Company/ Consortium Member(s)] to use our financial capability for meeting the Qualification Requirements for(insert title of the RfS), under OPEN category and confirm that all the equity investment obligations of M/s.....(Insert Name of Bidding Company/ Consortium Member(s)] for development of selected project(s), shall be deemed to be our equity investment obligations and in the event of any default the same shall be met by us. The Board also confirms and undertake that in case M/s.....[Insert

				<i>name of Bidding Company/ Consortium Member(s)] fails to submit the requisite Performance Bank Guarantee in terms of Request for Selection Document, the same shall be submitted by us on its behalf. [To be passed by the entity(s) whose financial credentials have been used i.e. Parent and / or its affiliate.]</i>
45	6	5.0 Page 154 of RfS	Fire Protection: The BESSD shall design and install a fire protection system that conforms to national and local codes. The fire protection system design and associated alarms shall take into account that the BESS will be unattended at most times. For high energy density technologies, the BESSD shall also obtain thermal runaway characterization of the battery storage systems.	Fire Protection: The BESSD shall design and install a fire protection system that conforms to national and local codes. The fire protection system design and associated alarms shall take into account that the BESS will be unattended at most times. For high energy density technologies, the BESSD shall also obtain thermal runaway characterization of the battery storage systems. As Battery Energy Storage System is prone to fire hazard, the BESSD shall provide suitable means such as fire barrier between switchyard and BESS to avoid fire to spread from BESS to Yard equipment. The safety of the equipment / personnel related to BESS operations will be in the scope of the BESSD. KSEBL will in no way be responsible for any loss / damage due to any fire accidents. Fire Hydrant system with approval from Fire Force Department, Kerala shall be installed in the BESS area. The BESS container area shall be fitted with High mast Thermal & Surveillance Camera and streaming of the same shall be provided at Control Room of respective Sub Station in BESSD's scope.
46	6	9.0 Page 155 of RfS	Other necessary criteria a) BESS shall be capacity of operating in the frequency range of 47.5 Hz to 52 Hz and be able to deliver rated output in the frequency range of 49.5 Hz to 50.5 Hz. b) BESS shall be capable of operating when voltage at the interconnection point on any or all phases dips/rises to the high or low levels. The levels applicable for wind/solar inverter-based generation may be referred as available in Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations. c) The safe and reliable operation of power system is ensured by frequency control as well as voltage control. BESS to be implemented shall have provisions for Primary frequency control with a droop which can be set as per	Other necessary criteria i. Central Electricity Authority, Technical Standards for Connectivity to the Grid, (Amendment) Regulations, 2013 and 2019 mention connectivity standards applicable to the wind generating stations, generating stations using inverters, wind - solar photo voltaic hybrid systems and energy storage systems. BESS, being an inverter based power system element, shall also comply to the requirements specified for other generating stations using inverters. a) BESS shall be capacity of operating in the frequency range of 47.5 Hz to 52 Hz and be able to deliver rated output in the frequency range of 49.5 Hz to 50.5 Hz. b) Low/High Voltage Ride Through (LVRT/HVRT): BESS shall be capable of operating when voltage at the interconnection point on any or all phases dips/rises to the high or low levels. The levels

			<p>system requirement between 1- 3 percent. The BESS performs regulations in one or several pre-defined ways (e.g. regulating its own output power according to the orders given by SCADA system) to achieve an active power balance between generation and demand to maintain the power system frequency within a reasonable range. </p>	<p>applicable for wind/solar inverter-based generation may be referred as available in Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations. c) The safe and reliable operation of power system is ensured by frequency control as well as voltage control. BESS to be implemented shall have provisions for Primary frequency control with a droop which can be set as per system requirement between between the range specified for wind/solar generation sources (inverter-based) in the Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations 1-3 percent. The BESS performs regulations in one or several predefined ways (e.g. regulating its own output power according to the orders given by SCADA system) to achieve an active power balance between generation and demand to maintain the power system frequency within a reasonable range. </p>
47	6	9.0 (h) Page 155 of RfS	<p>h) BESS shall have capability to operate in AGC. The details regarding AGC signals required by not limited to, are given (the conventional power plant signal link) at the link, https://posoco.in/download/detailed-signal-list-for-connecting-generators-underagc/?wpdml=29546. BESS shall be able to operate in AGC and be able to comply with the requirements desired by system operators. Some of the BESS signal list for implementation of AGC can be like below (list is indicative only):</p> <ul style="list-style-type: none"> i) Maximum MW permissible (dynamic or user entry) ii) Minimum MW permissible (dynamic or user entry) iii) Ramp rate up permissible (dynamic or user entry) iv) Ramp rate down permissible (dynamic or user entry) v) Actual MW vi) Actual MVAR vii) Auxiliary Consumption MW viii) Scheduled MW (dynamic or user entry) ix) BESS Temperature (for monitoring and correlation) 	<p>h) BESS shall have capability to operate in AGC. The details regarding AGC signals required by not limited to, are given (the conventional power plant signal link) at the link, https://posoco.in/download/detailed-signal-list-for-connecting-generators-underagc/?wpdml=29546. BESS shall be able to operate in AGC and be able to comply with the requirements desired by system operators. Some of the BESS signal list for implementation of AGC can be like below (list is indicative only):</p> <ul style="list-style-type: none"> i) Maximum MW permissible (dynamic or user entry) ii) Minimum MW permissible (dynamic or user entry) iii) Ramp rate up permissible (dynamic or user entry) iv) Ramp rate down permissible (dynamic or user entry) v) Actual MW vi) Actual MVAR vii) Auxiliary Consumption MW viii) Scheduled MW (dynamic or user entry) ix) BESS Temperature (for monitoring and correlation)

			<p>x) Ambient Temperature (for monitoring and correlation) xi) Cycle limits (0-100%) per day (user entry) xii) Circuit breaker status xiii) Local/Remote status xiv) ACC Set Point MW from NLDC to BESS xv) Voltage (KV) at grid level xvi) Voltage (V) at BESS LV side</p>	<p>x) Ambient Temperature (for monitoring and correlation) xi) Cycle limits (0-100%) per day (user entry) xii) Circuit breaker status xiii) Local/Remote status xiv) ACC Set Point MW from NLDC to BESS xv) Voltage (KV) at grid level xvi) Voltage (V) at BESS LV side</p>
48	Article 1 of BESPA	New Clause Definitions	New Clause added	<p>“Debt Due” shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the Transfer Date: a. The principal amount of the debt provided by the Senior Lenders under the Financing Agreements for financing the Total Project Cost (the ‘Principal’) but excluding any part of the principal that had fallen due for repayment 2 (two) years prior to the Transfer Date; b. All accrued interest, financing fees and charges payable under the Financing Agreements on, or in respect of, the debt referred to in sub-clause (a) above until the Transfer Date but excluding: (i) any interest, fees or charges that had fallen due 2 (two) years prior to the Transfer Date, (ii) any penal interest or charges payable under the Financing Agreements to any Senior Lender, (iii) any prepayment charges in relation to accelerated repayment of debt except where such charges have arisen due to Procurer Default, and (iv) any Subordinated Debt which is included in the Financial Package and disbursed by equity investors or their Affiliates for financing the Total Project Cost. Provided that if all or any part of the Debt Due is convertible into Equity at the option of Senior Lenders and/or the Concessionaire, it shall for the purposes of this Agreement be deemed not to be Debt Due even if no such conversion has taken place and the principal thereof shall be dealt with as if such conversion had been undertaken. Provided further that the Debt Due, on or after COD, shall in no case exceed 80% (eighty percent) of the Total Project Cost.</p>
49	Article 2 of BESPA	2.2.2 Page 178 of BESPA	The BESSD is free to operate their plants beyond the Expiry Date if other conditions like land lease / Right to Use of Land (as applicable), permits, approvals and clearances etc. allow. In such case unless otherwise agreed by the NHPC/Buying Entity, NHPC/Buying Entity (as the case may be) shall not be	The BESSD is free to operate their plants beyond the Expiry Date only with explicit written sanction from KSEBL if other conditions like land lease / Right to Use of Land (as applicable), permits, approvals and clearances etc. allow. In such case unless otherwise agreed by the NHPC/Buying Entity, NHPC/Buying Entity (as the case may be) shall

	A		obligated to procure power beyond the Expiry Date.	not be obligated to procure power beyond the Expiry Date. If the BESSD, KSEBL and NHPC mutually agrees for extension of the BESPA, the same shall be subject to approval of KSERC as per terms and conditions of the RfS.
50	Article 3 of BESPA	3.1 (ii) Page 179 of BESPA	BESSD's own cost and risk by.....[Enter the date as on Six (6) Months prior to SCD], BESSD shall make Project financing arrangements (i.e. arrangement of necessary funds by the Battery Energy Storage System Developer towards 100 % project cost either by way of commitment of funds by the Company from its internal resources (by a resolution passed by the Board of Directors) and/or tie up of funds through a bank/financial institution by way of sanction of a loan or firm commitment letter agreeing to finance) for Projects(s) and shall provide necessary certificates to NHPC in this regard;	BESSD's own cost and risk by.....[Enter the date as on Six (6) Months prior to SCD Nine (9) months from the effective date], BESSD shall make Project financing arrangements (i.e. arrangement of necessary funds by the Battery Energy Storage System Developer towards 100 % project cost either by way of commitment of funds by the Company from its internal resources (by a resolution passed by the Board of Directors) and/or tie up of funds through a bank/financial institution by way of sanction of a loan or firm commitment letter agreeing to finance) for Projects(s) and shall provide necessary certificates to NHPC in this regard;
51	Article 3 of BESPA	3.1 (iii) & iv Page 179 of BESPA	Detailed Project Report (DPR) of the Project, detailing out project configuration and proposed commissioning schedule of the Project. The BESSD shall also submit to NHPC the relevant documents as stated above, complying with the Conditions Subsequent, within Six (6) months prior to SCD.	Detailed Project Report (DPR) of the Project, detailing out project configuration and proposed commissioning schedule of the Project. The BESSD shall also submit to NHPC the relevant documents as stated above, complying with the Conditions Subsequent, within Nine (9) months from the effective date Six (6) months prior to SCD .
52	Article 3 of BESPA	3.2.1 Page 179 of BESPA	In case of a failure to submit the documents as above, NHPC shall encash the Performance Bank Guarantee/Payment on Order Instrument / Insurance surety bond submitted by the BESSD, terminate this Agreement and remove the Project from the list of the selected Projects by giving a notice to the BESSD in writing of at least seven (7) days, unless the delay (subject to the condition that BESSD has made/ is making all possible efforts) is on account of delay in allotment of Land by the Government not owing to any action or inaction on the part of the BESSD or caused due to a Force Majeure.	In case of a failure to submit the documents as above, NHPC shall encash the Performance Bank Guarantee/Payment on Order Instrument / Insurance surety bond submitted by the BESSD, terminate this Agreement and remove the Project from the list of the selected Projects by giving a notice to the BESSD in writing of at least seven (7) days, unless the delay (subject to the condition that BESSD has made/ is making all possible efforts) is on account of delay in allotment of Land by KSEBL the Government not owing to any action or inaction on the part of the BESSD or caused due to a Force Majeure. Unless extended as per provisions of Article 3.2.1 (i) of this

			Unless extended as per provisions of Article 3.2.1(i) of this Agreement in writing, the termination of the Agreement shall take effect upon the expiry of the 7th day of the above notice.	Agreement in writing, the termination of the Agreement shall take effect upon the expiry of the 7th day of the above notice.
53	Article 4 of BESPA	4.1.1 (a) 182 of BESPA	The BESSD shall be solely responsible and demonstrate possession of 100% (Hundred Percent) of the land identified for the Project in its name for a period not less than the complete Term of this Agreement on or before Schedule Commissioning Date. In this regard, the BESSD shall submit documents/ Lease Agreement to establish possession/ right to use 100% of the required land in the name of the BESSD. The BESSD shall submit a sworn affidavit from the authorized signatory of the BESSD listing the details of the land and certifying that total land required for the Project is under clear possession of the BESSD;	The BESSD shall be offered land on Right to Use arrangement not later than 60 days from the effective date of BESPA, the solely responsible and demonstrate possession of 100% (Hundred Percent) of the land identified for the Project in its name for a period not less than the complete Term of this Agreement on or before Schedule Commissioning Date. BESSD shall promptly comply with all the statutory / non-statutory, legal requirements including but not limited to signing of any agreement, payment of considerations etc. as per the offer made for the land. In this regard, the BESSD shall submit documents/Lease Agreement to establish possession/ right to use 100% of the required land in the name of the BESSD. The BESSD shall submit a sworn affidavit from the authorized signatory of the BESSD listing the details of the land and certifying that total land required for the Project is under clear possession of the BESSD;
54	Article 4 of BESPA	4.2.7 Page 186 of BESPA	In addition, BESS system shall need comply to requirements/performance parameters stipulated in Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007 and its amendments.	In addition, BESS system shall need to comply to with requirements/performance parameters stipulated in Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007 and its amendments or equivalent KSERC regulations.
55	Article 4 of BESPA	4.2.8 Page 186 of BESPA	Communication Equipment Requirement at BESS end shall be as per stipulations of STU.	Communication Equipment Requirement at BESS end shall be as per stipulations of STU. BESSD will provide UGFO/Approach cable (having minimum 12Fibers) from BESS end to the..... [Insert the name of the s/s selected for] PS control room. BESSD will provide FOTE (STM-16) terminal equipment, FODP and PMU at the BESS end.
56	Article 4 of BES	New Clause 4.2.10	New Clause added	The BESSD shall be responsible for obtaining Connectivity and executing connectivity agreement as per provision of latest Grid Connectivity and Intra-state Open Access Regulations issued by KSERC, for evacuation of the Contracted Capacity and maintaining it

	PA	Page 186 of BESPA		<p>throughout the term of the Agreement. It is further clarified that the Entities (BESSD and Buying Entity) as indicated in the Detailed Procedure issued subsequently under the KSERC's relevant Grid Connectivity and Intra-state Open Access Regulations (As amended from time to time), will be responsible for their respective obligation as notified in the Detailed Procedure irrespective of the provisions of the RfS, BESPA and BESSA.</p>
57	Article 4 of BESPA	4.4.1 Page 186 of BESPA	<p>NHPC, in any Contract Year, shall not be obliged to off-take any capacity beyond / over and above Contracted Capacity. Moreover, during a day in any Contract year, BESSD shall not be asked as well as BESSD shall not be allowed to schedule for more than 1 Cycles / day. For the purpose of this Agreement, Cycle shall mean charging of the BESS upto the Contracted capacity followed by discharge of such stored energy. Discharging from the BESS is not allowed between 10:00 AM and 5:00 PM of each day. The BESSD shall not use the Contracted Capacity for any purpose other than that specified in this Agreement.</p> <p>.....</p>	<p>NHPC, in any Contract Year, shall not be obliged to off-take any capacity beyond / over and above Contracted Capacity. Moreover, during a day in any Contract year, BESSD shall not be asked as well as BESSD shall not be allowed to schedule for more than 1 Cycles/day. For the purpose of this Agreement, Cycle shall mean charging of the BESS upto the Contracted capacity followed by discharge of such stored energy. Charging and Discharging from the BESS is solely as per the schedule by KSEBL. Discharging from the BESS is not allowed between 10:00 AM and 5:00 PM of each day. The BESSD shall not use the Contracted Capacity for any purpose other than that specified in this Agreement.</p> <p>During a Day, Buying Entity shall not ask for / schedule any BESS capacity / Energy in excess of 1 cycle of charge and discharge of 4 hours at rated power.</p> <p>Provided that, in a cycle for charging to the rated capacity at rated power, 4.45 hours is permitted which could be a single stretch of 4.45 hours or multiple stretches for achieving 100% charging of rated MWh capacity having total cumulative time period upto 10 hours.</p> <p>Similarly, for discharge, there could be a single stretch of 4 hours or two sections having total cumulative time period upto 8 hours for achieving 100% discharging of rated MWh capacity subject to condition that total scheduled discharge of energy from BESS as demanded by the Buying Entity shall be limited to Current Rte % of the energy supplied by the Buying Entity.</p> <p>Also Provided that KSEBL, at its discretion, can split the discharge of the stored energy into one or two sessions, but not more than two. The discharge may also be performed at below the rated power, stretching upto 8 Hours.</p> <p>It is hereby clarified that the BESS should be designed to provide a</p>

				<p>minimum of 4 hours of discharging capacity at rated power. However, KSEBL, at its sole discretion, can schedule the discharging of the BESS in one or two sessions each day, at rated power or stretching upto 8 Hours when discharged below rated power.</p> <p>Illustration: (At Rated Power)</p> <table border="0"> <tr> <td>SI No:</td> <td>Session -1</td> <td>Session -2</td> </tr> <tr> <td>1</td> <td>4 Hours</td> <td>--</td> </tr> <tr> <td>2</td> <td>3 Hours</td> <td>1 Hour</td> </tr> <tr> <td>3</td> <td>2 Hours</td> <td>2 Hours</td> </tr> <tr> <td>4</td> <td>1 Hour</td> <td>3 Hour</td> </tr> </table> <p>Similarly, the charging cycle may, if required, may be performed in a single session or in two sessions, at rated power or, stretching upto 10 Hours when charged at below rated power, at sole discretion of KSEBL.</p> <p>.....</p>	SI No:	Session -1	Session -2	1	4 Hours	--	2	3 Hours	1 Hour	3	2 Hours	2 Hours	4	1 Hour	3 Hour
SI No:	Session -1	Session -2																	
1	4 Hours	--																	
2	3 Hours	1 Hour																	
3	2 Hours	2 Hours																	
4	1 Hour	3 Hour																	
58	Article 4 of BESP A	4.4.1 (ii) Page 187 of BESP A	<p>Energy scheduled for discharge in a given cycle during a year shall be more than or equal to the Min. Dispatchable Energy Capacity at the End of Year as specified under Article 4.4.2.(c). Discharging from the BESS is not allowed between 10:00 AM and 5:00 PM of each day.</p> <p>.....</p>	<p>Energy scheduled for discharge in a given cycle during a year shall be more than or equal to the Min. Dispatchable Energy Capacity at the End of Year as specified under Article 4.4.2.(c). Discharging from the BESS is not allowed between 10:00 AM and 5:00 PM of each day.</p> <p>.....</p>															
59	Article 4 of BESP A	4.4.2 (a) Page 187 of BESP A	<p>Minimum Monthly Average Availability of 95%: During any Month for the Contracted Capacity, BESSD shall be required to maintain minimum Monthly average availability of 95%. Monthly Average Availability shall be calculated as per methodology given in the RfS. In case of shortfall in meeting the above criteria, the BESSD shall be levied liquidated damages for such shortfall and shall duly pay such damages to NHPC to enable NHPC to remit the amount to KSEBL / Buying Entity under BESSA. Amount of such liquidated damages shall be twice the Capacity Charges (Capacity Charges shall mean Applicable Tariff as defined under Article 9 of the BESP A) for the capacity not made available</p>	<p>Minimum Monthly Annual Average Availability of 95% during charging cycles: During any Contract Year Month for the Contracted Capacity, BESSD shall be required to maintain minimum Monthly Annual average availability of 95% during charging cycles. Monthly Annual Average Availability shall be calculated as per methodology given in the RfS. In case of shortfall in meeting the above criteria, the BESSD shall be levied liquidated damages for such shortfall and shall duly pay such damages to NHPC to enable NHPC to remit the amount to KSEBL / Buying Entity under BESSA. Amount of such liquidated damages shall be 1.5 times twice the Capacity Charges (Capacity Charges shall mean Applicable Tariff as defined under Article 9 of the BESP A) for the capacity not made available.</p>															

			<p>The Minimum Monthly Average Availability as specified above, shall however be relaxable by NHPC to the extent of grid non-availability for evacuation which is beyond the control of the BESSD (as certified by the SLDC/RLDC) and / or upon occurrence of Force Majeure event as identified in BESP A (and occurrence of such Force Majeure event(s) has been mutually agreed) and affecting availability and supply of Contracted Capacity.</p> <p>Round Trip Efficiency: The BESSD shall maintain AC to AC roundtrip efficiency (RtE) of system on a monthly basis. Calculation of Round-Trip Efficiency shall be as per the methodology specified in RfS. The BESSD shall be liable for liquidated damages, if any, as per following criteria:</p> <p>(i) For $70\% \leq \text{RtE} < 85\%$ there shall be a liquidated damage levied @ APPC charge of previous financial year of KSEBL levied upon excess conversion losses considering system RtE = 85%</p> <p>(ii) For $\text{RtE} < 70\%$, there shall be a liquidated damage levied @1.5 times APPC charge of previous financial year of the KSEBL upon the excess conversion losses considering system RtE = 85%.</p> <p>(iii) For $\text{RtE} > 85\%$, there shall be incentive @Rs. 0.50 per unit of excess discharge of energy considering system RtE = 85</p>	<p>The Minimum Monthly Annual Average Availability as specified above, shall however be relaxable by NHPC to the extent of grid non-availability for evacuation which is beyond the control of the BESSD (as certified by the SLDC/RLDC) and / or upon occurrence of Force Majeure event as identified in BESP A (and occurrence of such Force Majeure event(s) has been mutually agreed) and affecting availability and supply of Contracted Capacity.</p> <p>If the maximum permissible un availability 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>Round Trip Efficiency: The BESSD shall maintain AC to AC roundtrip efficiency (RtE) of system on a monthly basis. Calculation of Round-Trip Efficiency shall be as per the methodology specified in RfS. The BESSD shall be liable for liquidated damages, if any, as per following criteria:</p> <p>(i) For $70\% \leq \text{RtE} < 85\%$ there shall be a liquidated damage levied @ APPC charge of previous financial year of KSEBL levied upon excess conversion losses considering system RtE = 85%</p> <p>(ii) For $\text{RtE} < 70\%$, there shall be a liquidated damage levied @1.5 times APPC charge of previous financial year of the KSEBL upon the excess conversion losses considering system RtE = 85% and tariff payment for the corresponding month shall not be made to the BESSD.</p> <p>(iii) For $\text{RtE} > 85\%$, there shall be incentive @Rs. 0.50 per unit of excess discharge of energy considering system RtE = 85</p>
60	Article 4 of BESP A	4.4.2 (c) Page 189 of BESP A	<p>Performance criteria to be demonstrated by the Project have been detailed out in Schedule-B of this Agreement</p>	<p>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 4.4.2 (b) of RfS. The annual energy commitment is 95% of the energy scheduled for discharge. 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 as per methodology given in the RfS</p>

61	Article 4 of BESPA	4.4.3 Page 189 of BESPA	<p>Shortfall in meeting Performance Criteria: Following provisions shall be applicable on the Contracted Capacity guaranteed to be offtaken by NHPC: Subsequent to COD of full Project Capacity, in case the Monthly 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 provided in the BESSA as payable by NHPC to Buying Entity and shall duly pay such damages to NHPC to enable NHPC to remit the amount to Buying Entity. Liquidated damages on account of shortfall in meeting the minimum Availability criteria as per Article 4.4.2 (a) will be computed as follows: Liquidated damages = (A – B) x C x D x 2 where, A is Guaranteed Monthly Availability as per Article 4.4.2 (a) above; B is Actual Monthly System Availability, as calculated as per Schedule-B of this Agreement; C is Contracted Capacity; D is Tariff / Capacity Charges/MW/month as discovered through bidding process; In case the BESSD fails to meet the monthly RtE demonstration as per Article 4.4.2 (b), additional Liquidated Damages for the unavailability of the required minimum RtE shall be applicable for the entire month. For avoidance of any doubt, liquidated damages as specified above are mutually exclusive and independent, therefore, in case of levying of liquidated damages against Monthly Average Availability and Round-Trip Efficiency, both damages shall be payable by the BESSD. Illustrations regarding calculation of liquidated damages are provided at Schedule-2 of this Agreement.</p>	<p>Shortfall in meeting Performance Criteria: Following provisions shall be applicable on the Contracted Capacity guaranteed to be offtaken by NHPC: Subsequent to COD of full Project Capacity, in case the Monthly 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 provided in the BESSA as payable by NHPC to Buying Entity and shall duly pay such damages to NHPC to enable NHPC to remit the amount to Buying Entity. Liquidated damages on account of shortfall in meeting the minimum Availability criteria as per Article 4.4.2 (a) will be computed as follows: Liquidated damages = (A – B) x C x n x D x 2 1.5 where, n=12 A is Guaranteed Monthly Annual Availability as per Article 4.4.2 (a) above; B is Actual Monthly Annual System Availability, as calculated as per Schedule-B of this Agreement; C is Contracted Capacity; D is Tariff / Capacity Charges/MW/month as discovered through bidding process; In case the BESSD fails to meet the monthly RtE demonstration as per Article 4.4.2 (b), additional Liquidated Damages for the unavailability of the required minimum RtE shall be applicable for the entire month.</p> <p>Liquidated Damages, on account of short fall in supply of committed energy is 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 as per methodology given in the RfS.</p> <p>For avoidance of any doubt, liquidated damages as specified above are mutually exclusive and independent, therefore, in case of levying of liquidated damages against Monthly Average Availability, Round-Trip Efficiency and Discharge energy commitment all both damages shall be payable by the BESSD. Illustrations regarding calculation of liquidated damages are provided at Schedule-2 of this Agreement.</p>
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62	Article 4 of BESP A	4.6.1 Page 191 of BESP A	The Project shall be fully commissioned within the Scheduled Commissioning Date as defined in this Agreement. If the BESSD is unable to commission the Project by the Scheduled Commissioning Date for the reasons other than those specified in Article 4.5.1 & Article 4.5.2, the BESSD shall pay to NHPC, damages for the delay in such commissioning and making the Contracted Capacity available for dispatch by the Scheduled Commissioning Date as per the following:	The Project shall be fully commissioned within the Scheduled Commissioning Date as defined in this Agreement. If the BESSD is unable to commission the Project by the Scheduled Commissioning Date for the reasons other than those specified in Article 4.5.1 & Article 4.5.2, the BESSD shall pay to NHPC to enable NHPC to remit the amount to KSEBL , damages for the delay in such commissioning and making the Contracted Capacity available for dispatch by the Scheduled Commissioning Date as per the following:
63	Article 5 of BESP A	5.1.2 Page 193 of BESP A	Subject to Article 5.1.1, the Project may be synchronized by the BESSD to the Grid System when it meets all the connection conditions prescribed in applicable Grid Code then in effect and otherwise meets all other Indian legal requirements for synchronization to the Grid System	Subject to Article 5.1.1, the Project may be synchronized by the BESSD to the Grid System with permission from KSEBL and in presence of Authorized Representative of KSEBL when it meets all the connection conditions prescribed in applicable Grid Code then in effect and otherwise meets all other Indian legal requirements for synchronization to the Grid System.
64	Article 5 of BESP A	5.1.5 Page 194 of BESP A	The BESSD shall commission the Project as detailed in "Schedule 3: Commissioning Procedure" within eighteen (18) Months from the Effective Date of BESP A. Declaration of SCD/USCD shall only be done subject to the demonstration of the compliances as per Schedule-3.	The BESSD shall commission the Project as detailed in "Schedule 3: Commissioning Procedure" within Fifteen (15) eighteen (18) Months from the Effective Date of BESP A. Declaration of SCD/USCD shall only be done subject to the demonstration of the compliances as per Schedule-3.
65	Article 4 of BESP A	New Clause 4.4.2 (d)	New Clause added	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 %.
66	Article 7	7.1.1 Page 198 of	For installation of Meters, Meter testing, Meter calibration and Meter reading and all matters incidental thereto, the BESSD shall follow and be bound by the Central Electricity	For installation of Meters, Meter testing, Meter calibration and Meter reading and all matters incidental thereto, the BESSD shall follow and be bound by the Central Electricity Authority (Installation and

	of BESPA A	BESPA	Authority (Installation and Operation of Meters) Regulations, 2006, the Grid Code, as amended and revised from time to time.	Operation of Meters) Regulations, 2006, the Grid Code, equivalent KSERC regulations as amended and revised from time to time.														
67	Article 10 of BESPA A	New Clause 10.8	New Clause added	<p>Viability Gap Funding:</p> <p>10.8.1 In line with the 'Operational Guidelines for implementation of CPSU component under scheme for VGF for development of BESS' issued by MoP dated 17.10.2024 for the CPSU's , NHPC was included in the scheme, accordingly, BESSD selected as per this RfS is eligible for grant of Viability Gap Funding (VGF) support by the Central Government for development of Battery Energy Storage Systems, and the same will be disbursed through the Ministry of Power.</p> <p>10.8.2 The VGF amount eligible for BESS for contracted capacity calculated @Rs. 27,00,000/MWh (Rupees Twenty Seven Lakhs per MWh) or upto 30% of the capital cost of the Project Capacity awarded, whichever is lower.</p> <p>10.8.3 BESS Developer shall submit audited statement towards incurred certificate for the capital cost incurred for the Project awarded capacity, duly certified by the Statutory Auditors, within six months from the COD.</p> <p>10.8.4 In case, VGF sanctioned amount is more than 30% of the certified capital cost, then VGF sanctioned amount shall stand revised to 30% of the certified capital cost and VGF disbursement amount shall be adjusted from the subsequent tranches or recovered from developer, as applicable. Disbursement of VGF will be carried out in 5 tranches, as follows:</p> <table border="1" data-bbox="1207 829 1833 1190"> <thead> <tr> <th>Disbursement of VGF</th> <th>% of total VGF sanctioned</th> </tr> </thead> <tbody> <tr> <td>Upon achieving Financial Closure as per the BESPA, subject to submission of Bank Guarantee to the BIA and possession of 90% of the total land required for the Project by the BESSD</td> <td>10</td> </tr> <tr> <td>Upon achieving Commercial Operation Date (COD) of the Project</td> <td>45</td> </tr> <tr> <td>Upon completion of 1st year after COD</td> <td>15</td> </tr> <tr> <td>Upon completion of 2nd year after COD</td> <td>15</td> </tr> <tr> <td>Upon completion of 3rd year after COD</td> <td>15</td> </tr> <tr> <td>Total</td> <td>100</td> </tr> </tbody> </table> <p>10.8.5 The VGF shall be disbursed to BESSD through NHPC on certification of the achievement of the disbursement schedule milestone and submission of the required Bank Guarantee by BESSD to NHPC. VGF shall be disbursed by NHPC to BESSD only after receipt of same from the Government of India.</p> <p>10.8.6 The BESSD shall submit Bank Guarantee equal to the sanctioned VGF,</p>	Disbursement of VGF	% of total VGF sanctioned	Upon achieving Financial Closure as per the BESPA, subject to submission of Bank Guarantee to the BIA and possession of 90% of the total land required for the Project by the BESSD	10	Upon achieving Commercial Operation Date (COD) of the Project	45	Upon completion of 1 st year after COD	15	Upon completion of 2 nd year after COD	15	Upon completion of 3 rd year after COD	15	Total	100
Disbursement of VGF	% of total VGF sanctioned																	
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Upon completion of 2 nd year after COD	15																	
Upon completion of 3 rd year after COD	15																	
Total	100																	

				<p>prior to disbursement of VGF by NHPC. This BG shall be liable for encashment to recover the VGF amount in the event of non-fulfilment of the performance parameter(s) as per clause 4.4.2 and 4.4.3. The BG for the VGF sanctioned up to COD will be released after five (05) years of Commercial operation. If the BESSD fails to commission the project in the timeline provided in this BESP A, and project got terminated after disbursement of the quantum of VGF, NHPC will have full right to recover the total amount of VGF being disbursed till the date of termination of BESP A plus interest @ SBI-MCLR (1 Year) plus five percent, as existing on the date of disbursement, accrued from the date of disbursement on the disbursed amount. In case Project capacity is being reduced as per article 4.6.1(b) of this BESP A, recovery of VGF amount shall be made on pro-rata basis corresponding to the capacity being terminated. NHPC will have the right to recover the VGF disbursed through encashment of BG, if the BESP A gets terminated within the first 5 years after COD of the Project, on account of reasons solely attributable to the BESSD. Irrespective of the year of termination within the first 5 years after COD, the VGF amount to be recovered will be fixed as the amount disbursed until COD till date of termination of BESP A plus interest @ SBI-MCLR (1 Year) plus 5 percent, as existing on the date of disbursement, accrued from the date of disbursement on the disbursed amount. If the Project is transferred or sold to a third party during the above tenure, the BG will be re-issued by the new entity, corresponding to the amount applicable. The sale/transfer of the Project shall be effective only on submission of BG by new entity.</p>
68	Article 14 of BESP A	14.4.1 page 223	<p>Notwithstanding anything to the contrary contained in this Agreement, the Parties acknowledge and accept that the NHPC is an Intermediary Company to purchase and resell the electricity / capacity to the Buying Utility(ies) and, therefore, the performance of the obligations of the NHPC under this Agreement shall be subject to the ability of the NHPC to enforce the corresponding obligations assumed by the Buying Utility(ies) on re-sale under the Storage Capacity Providing Agreement to be entered into by the Buying Utility(ies) with NHPC. It is however, specifically agreed that the payment of money becoming due from the NHPC to the BESSD under this Agreement for supply of Energy /Capacity to the extent of the Contracted Capacity shall not be on a back to back basis and will be as per:</p> <p>1)the recourse under the Payment Security Mechanism</p>	<p>Notwithstanding anything to the contrary contained in this Agreement, the Parties acknowledge and accept that the NHPC is an Intermediary Company to purchase and resell the electricity/ capacity to the Buying Utility(ies) and, therefore, the performance of the obligations of the NHPC under this Agreement shall be subject to the ability of the NHPC to enforce the corresponding obligations assumed by the Buying Utility(ies) on re-sale under the Storage Capacity Providing Agreement to be entered into by the Buying Utility(ies) with NHPC. It is however, specifically agreed that the payment of money becoming due from the NHPC to the BESSD under this Agreement for supply of Energy /Capacity to the extent of the Contracted Capacity shall not be on a back to back basis and will be as per:</p> <p>1)the recourse under the Payment Security Mechanism provided in the BESP A and BESA, as follows:</p> <p>a) Letter of Credit;</p>

			<p>provided in the BESPA and BESSA, as follows:</p> <p>a) Letter of Credit;</p> <p>b) State Government Guarantee/ Tri-Partite Agreement (TPA) signed between Reserve Bank of India, Central Government and State Government of the Buying Entity, covering security for payment of energy charges, as applicable</p> <p>(c) Payment Security Fund provided by the Buying Entity, and</p> <p>(ii) Payment security fund as referred in Article 10.1.1 of the BESPA.</p> <p>NHPC shall discharge the tariff payment obligation in terms of the provisions of this Agreement.</p>	<p>b) State Government Guarantee/ Tri-Partite Agreement (TPA) signed between Reserve Bank of India, Central Government and State Government of the Buying Entity, covering security for payment of energy charges, as applicable</p> <p>(c) Payment Security Fund provided by the Buying Entity, and</p> <p>(iii) (b) Payment security fund as referred in Article 10.1.1 of the BESPA.</p> <p>NHPC shall discharge the tariff payment obligation in terms of the provisions of this Agreement.</p>															
69	Schedule B of BESPA	2.0 of Schedule B Page 234	<p>The BESSD shall make the BESS available for 1 operational cycle per day, i.e. one complete charge-discharge cycles per day. Following provisions shall be applicable on the entire Capacity guaranteed to be off taken by KSEBL:</p> <p>i. The procurement shall be in power (MW) terms. The BESSD shall install, operate and maintain the BESS to offer facility to the Buying Entity to charge and discharge the BESS on an "on demand" basis. The BESSD shall guarantee a minimum system availability of 95% on monthly basis. The BESSD shall pay the liquidated damages for such shortfall and shall duly pay such damages to NHPC to enable NHPC to remit the amount to Buying Entity under BESSA. Amount of such liquidated damages shall be twice the Capacity Charges for the capacity not made available.</p> <p>ii. 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 BESS as required under Clause 6.1.e.iv of RfS</p> <p>For a given BESPA, the Monthly availability guarantee shall</p>	<p>The BESSD shall make the BESS available for 1 operational cycle per day, i.e. one complete charge-discharge cycles per day.</p> <p>Provided that KSEBL, at its discretion, can split the discharge of the stored energy into one or two sessions, but not more than two. The discharge may also be performed at below the rated power, stretching upto 8 Hours.</p> <p>It is hereby clarified that the BESS should be designed to provide a minimum of 4Hours of discharging capacity at rated power. However, KSEBL, at its sole discretion, can schedule the discharging of the BESS in one or two sessions each day, at rated power or stretching upto 8 Hours when discharged below rated power.</p> <p>Illustration: (At rated Power)</p> <table border="1"> <thead> <tr> <th>Sl No:</th> <th>Session -1</th> <th>Session -2</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>4 Hours</td> <td>--</td> </tr> <tr> <td>2</td> <td>3 Hours</td> <td>1 Hour</td> </tr> <tr> <td>3</td> <td>2 Hours</td> <td>2 Hours</td> </tr> <tr> <td>4</td> <td>1 Hour</td> <td>3 Hours</td> </tr> </tbody> </table> <p>Similarly, the charging cycle may, if required, shall be performed in a single session or in two sessions, at rated power or stretching upto 10 Hours when charged at below rated power, at sole</p>	Sl No:	Session -1	Session -2	1	4 Hours	--	2	3 Hours	1 Hour	3	2 Hours	2 Hours	4	1 Hour	3 Hours
Sl No:	Session -1	Session -2																	
1	4 Hours	--																	
2	3 Hours	1 Hour																	
3	2 Hours	2 Hours																	
4	1 Hour	3 Hours																	

		<p>commence from the date of commissioning of the system and shall be calculated as below: Monthly System Availability = Mean of the System availabilities of all time-blocks during the Month in which the off-taker has scheduled power for charging/discharging the BESS. where, System Availability in a time-block= Actual Injection/Drawl MUi (A) / Scheduled Injection /Drawl MUi (B), where a) i refers to the ith time-block in the month where Scheduled Injection/Drawl MUi ≠ 0. b) Actual Injection/Drawal MUi is the Energy Scheduled for Charging/Discharging in the ith time block, in MUs c) Scheduled Injection/Drawal MUi is the Energy Scheduled for Charging/Discharging in the ith time block, in MUs d) A and B shall be as per the DSM/UI Reports published by the Regional RPCs / SLDC or measurement at the Main ABT Meter at the Point of Interconnection. iii. The BESSD shall guarantee AC to AC roundtrip efficiency (RtE) of system on monthly basis. The BESSD shall be liable for Liquidated Damages to the off-taker, if any, on account of excess conversion losses, based on the following conditions: (a) For RtE <70%, there shall be a liquidated damage @ 1.5 times of APPC charge of previous financial year of the Discom/KSEBL of excess conversion losses considering system RtE = 85%; For 70% ≤ RtE < 85%, there shall be a liquidated damage levied @ APPC tariff of last year of buying entity, per unit of excess conversion losses considering system RtE = 85%. (b) (c).....</p>	<p>discretion of KSEBL.</p> <p>Following provisions shall be applicable on the entire Capacity guaranteed to be off taken by KSEBL: i. The procurement shall be in power (MW) terms. The BESSD shall install, operate and maintain the BESS to offer facility to the Buying Entity to charge and discharge the BESS on an “on demand” basis. The BESSD shall guarantee a minimum system availability of 95% on annual monthly basis for charging cycles. The BESSD shall pay the liquidated damages for such shortfall and shall duly pay such damages to NHPC to enable NHPC to remit the amount to Buying Entity under BESSA. Amount of such liquidated damages shall be 1.5 times 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. ii. 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 BESS as required under Clause 6.1.e.iv of RfS For a given BESPA, the Monthly availability guarantee during charging cycles shall commence from the date of commissioning of the system and shall be calculated as below: Monthly Annual System Availability = Mean of the System availabilities of all time-blocks during the Year Month in which the off-taker has scheduled power for charging/discharging the BESS. Where, System Availability in a time-block= Actual Injection/Drawl MUi (A) / Scheduled Injection/Drawl MUi (B), where a) i refers to the ith time-block in the year where Scheduled Injection/Drawl MUi ≠ 0. b) Actual Injection/Drawl MUi is the Actual Energy for</p>
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				<p>Charging/Discharging in the ith time-block, in MUs</p> <p>c) Scheduled Injection/Drawl MUi is the Energy Scheduled for Charging/Discharging in the ith time-block, in MUs</p> <p>d).....</p> <p>The BESSD shall pay the liquidated damages for such shortfall and shall duly pay such damages to the BIA to enable NHPC to remit the amount to Buying Entity under BESSA. Amount of such liquidated damages shall be 1.5 times the Capacity Charges for the capacity not made available.</p> <p>iii. The BESSD shall guarantee AC to AC roundtrip efficiency (RtE) of system on monthly basis. The BESSD shall be liable for Liquidated Damages to the off-taker, if any, on account of excess conversion losses, based on the following conditions:</p> <p>(a) For RtE<70%, there shall be a liquidated damage @ 1.5 times ofAPPC charge of previous financial year of the Discom/KSEBL of excess conversion losses considering system RtE=85% ; and tariff payment for the corresponding month shall not be made to the BESSD</p> <p>(b).....</p> <p>(c)</p>
70	Schedule B of BESP A	New Clause 2.0 (iv) of Schedule B Page 235	New Clause added	<p>iv) 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 6.1.e (iv) of RfS. 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.</p>
71	Schedule 2 of BESP A	Schedule 2 Illustrations		Modified Schedule 2 separately attached

72	BESS A	XIV Page 248 of BESSA	The Buying Entity shall be responsible for obtaining Grid Access as per the regulations of State Electricity Regulatory Commission within 30 days of signing of BESSA, at its own risk and cost. It is further clarified that the Entities (BESSD and Buying Entity) as indicated in the Detailed Procedure issued subsequently under the above Regulation, will be responsible for their respective obligation irrespective of the provisions of the RfS, BESPA and BESSA.	The Buying Entity shall be responsible for obtaining Grid Access as per the regulations of State Electricity Regulatory Commission within 30 days of signing of BESSA, at its own risk and cost. It is further clarified that the Entities (BESSD and Buying Entity) as indicated in the Detailed Procedure issued subsequently under the above Regulation, will be responsible for their respective obligation irrespective of the provisions of the RfS, BESPA and BESSA.
73	Article 1 of BESS A	1.1 of BESSA Page 248	The Tariff applicable for the sale of BESS Capacity by NHPC to the Buying Entity under this Agreement shall be the Tariff as applicable for payment by NHPC to BESSD under the terms of the BESPA between NHPC and the BESSD (Individual BESSDs tariff as per schedule B) fixed for entire term of agreement at delivery point and in addition thereto a trading margin of 0.5% of the applicable capacity charges / tariff OR 7 paise / kWh as the case may be and any taxes and duties including GST (if applicable) for making BESS capacity available to the Buying Entity under this Agreement, shall be payable by the Buying Entity to NHPC over and above of the Applicable Tariff under BESPA, which NHPC shall be entitled to appropriate as its income.	The Tariff applicable for the sale of BESS Capacity by NHPC to the Buying Entity under this Agreement shall be the Tariff as applicable for payment by NHPC to BESSD under the terms of the BESPA between NHPC and the BESSD (Individual BESSDs tariff as per schedule B) fixed for entire term of agreement at delivery point and in addition thereto a trading margin of 0.5% of the applicable capacity charges / tariff OR 7 paise / kWh as the case may be and any taxes and duties including GST (if applicable) for making BESS capacity available to the Buying Entity under this Agreement, shall be payable by the Buying Entity to NHPC over and above of the Applicable Tariff under BESPA, which NHPC shall be entitled to appropriate as its income.
74	Article 1 of BESS A	1.2 of BESSA Page 248	As per provisions of the BESPA, the BESSDs are permitted for full as well as part commissioning of the Project even prior to the SCD. In case of early part / full commissioning of the Project(s) prior to SCD, Buying Entity shall purchase the BESS Capacity at Applicable capacity charges / tariff as per the BESPA, plus NHPC's Trading Margin of Rs 0.5% of the Applicable capacity charges / Tariff OR 7 paise / kWh as the case may be as per BESPA.	As per provisions of the BESPA, the BESSDs are permitted for full as well as part commissioning of the Project even prior to the SCD. In case of early part / full commissioning of the Project(s) prior to SCD, Buying Entity shall purchase the BESS Capacity at Applicable capacity charges / tariff as per the BESPA, plus NHPC's Trading Margin of Rs 0.5% of the Applicable capacity charges / Tariff OR 7 paise / kWh as the case may be as per BESPA.
75	Article 1 of BESS A	1.3 of BESSA Page 249	Incentive for Higher Round Trip Efficiency of 85%: BESSD will be liable to receive an amount calculated @ INR 0.5/kWh for incremental supply on account of Roundtrip Efficiency in excess of 85%	Incentive for Higher Round Trip Efficiency of 85%: BESSD will be liable to receive an amount calculated @ INR 0.5/kWh for incremental supply on account of Roundtrip Efficiency in excess of 85%. The BESSD shall be liable for liquidated damages if any, as per following criteria:

				<p>(i) For $70\% \leq RtE < 85\%$ there shall be a liquidated damage levied @ APPC tariff of previous financial year applicable to KSEBL for the excess conversion losses considering system $RtE = 85\%$.</p> <p>(ii) For $RtE < 70\%$, there shall be a liquidated damage @ APPC tariff of previous financial year applicable to KSEBL for the excess conversion losses considering system $RtE = 85\%$, and tariff payment for the corresponding month shall not be made to the BESSD.</p> <p>The BESSD is liable for Liquidated Damages on account of Annual System availability during charging cycles and for the Short fall in supply of committed energy as described in relevant clauses of the RfS.</p> <p>The Liquidated Damages realized from the BESSD shall be transferred to KSEBL.</p>
76	Article 2 of BESS A	2.3 of BESSA Page 250	<p>In the event of payment of a Monthly Bill by the Buying Entity beyond the Due Date, a Late Payment Surcharge (LPS) shall be payable by the Buying Entity to NHPC on the outstanding payment, at the base rate of Late Payment Surcharge applicable for the period for the first month of default. "Base rate of Late Payment Surcharge" means the marginal cost of funds based lending rate for one year of the State Bank of India, as applicable on the 1st April of the financial year in which the period lies, plus five percent and in the absence of marginal cost of funds based lending rate, any other arrangement that substitutes it, which the Central Government may, by notification, in the Official Gazette, specify.</p> <p>The Late Payment Surcharge shall be claimed by NHPC through the Supplementary Bill. Late Payment Surcharge shall be payable on the outstanding payment beyond the Due Date at the base rate of Late Payment Surcharge applicable for the period for the first month of default. The rate of Late Payment Surcharge for the successive months of default shall increase by 0.5 percent (50 bps) for every month of delay provided that the Late Payment Surcharge</p>	<p>In the event of payment of a Monthly Bill by the Buying Entity beyond the Due Date, a Late Payment Surcharge (LPS) shall be payable by the Buying Entity to NHPC on the outstanding payment, as per Late Payment Surcharge Rules 2022 as amended from Time to Time at the base rate of Late Payment Surcharge applicable for the period for the first month of default. "Base rate of Late Payment Surcharge" means the marginal cost of funds based lending rate for one year of the State Bank of India, as applicable on the 1st April of the financial year in which the period lies, plus five percent and in the absence of marginal cost of funds based lending rate, any other arrangement that substitutes it, which the Central Government may, by notification, in the Official Gazette, specify.</p> <p>The Late Payment Surcharge shall be claimed by NHPC through the Supplementary Bill. Late Payment Surcharge shall be payable on the outstanding payment beyond the Due Date at the base rate of Late Payment Surcharge applicable for the period for the first month of default. The rate of Late Payment Surcharge for the successive months of default shall increase by 0.5 percent (50 bps) for every month of delay provided that the Late Payment Surcharge shall not be more than 3 percent higher than the base rate at any time: </p>

			shall not be more than 3 percent higher than the base rate at any time:
77	Article 2 of BESS A	2.5.3 of BESSA Page 252	Provided further that if at any time, such Letter of Credit amount falls short of the amount specified in Article 2.5.2 due to any reason whatsoever, the Buying Entity shall restore such shortfall within seven (7) days.	Provided further that if at any time, such Letter of Credit amount falls short of the amount specified in Article 2.5.2 due to any reason whatsoever, the Buying Entity shall restore such short fall within seven (7) days. Thirty (30) days.
78	Article 2 of BESS A	2.6 Page 253 of BESSA	2.6 State Government Guarantee The Buying Utility shall extend the State Government Guarantee, in a legally enforceable form, such that there is adequate security, both in terms of payment of energy charges and termination compensation if any [for the purpose of this clause, the Tri-Partite Agreement (TPA) signed between Reserve Bank of India, Central Government and State Government shall qualify as State Government Guarantee covering the security for payment of energy charges]. The BIA shall ensure that upon invoking this guarantee, it shall at once, pass on the same to the BESSD, to the extent the payments to the BESSD in terms of the BESPAs are due. Provided that, in cases where the Buying Entity is neither covered by Tri-Partite Agreement (TPA) nor is it able to provide the State Government Guarantee, in such cases, Buying Entity will provide Letter of Credit with respect to monthly billing, as per following: a) For the 1st Contract Year, equal to 2.10 times the amount corresponding to the committed BESSA Capacity as per the BESSA. b) For the subsequent years, equal to 2.10 times the average monthly bills of previous year.	2.6 State Government Guarantee The Buying Utility shall extend the State Government Guarantee, in a legally enforceable form, such that there is adequate security, both in terms of payment of energy charges and termination compensation if any [for the purpose of this clause, the Tri-Partite Agreement (TPA) signed between Reserve Bank of India, Central Government and State Government shall qualify as State Government Guarantee covering the security for payment of energy charges]. The BIA shall ensure that upon invoking this guarantee, it shall at once, pass on the same to the BESSD, to the extent the payments to the BESSD in terms of the BESPAs are due. Provided that, in cases where the Buying Entity is neither covered by Tri-Partite Agreement (TPA) nor is it able to provide the State Government Guarantee, in such cases, Buying Entity will provide Letter of Credit with respect to monthly billing, as per following: a) For the 1st Contract Year, equal to 2.10 times the amount corresponding to the committed BESSA Capacity as per the BESSA. b) For the subsequent years, equal to 2.10 times the average monthly bills of previous year.
79	Article 2 of BESS	2.7 Page 254 of BESSA	Payment Security Fund In addition to provisions contained in Article 2.6 above, the Buying Entity may provide Payment Security Fund, which shall be suitable to support payment of at least 3 (three)	Payment Security Fund In addition to provisions contained in Article 2.6 above, the Buying Entity may provide Payment Security Fund, which shall be suitable to support payment of at least 3 (three) months' billing, of all the

	A		<p>months' billing, of all the Projects tied up with such fund. The parties agree that subsequent to opening of the above Payment Security Fund, the proceeds of encashment of PBGs upon default of the BESSD (if any) under the respective BESPAs shall be passed on to the BIA / Buying Utility as per the modalities notified by MOP/MNRE for operation of Payment Security Fund. It is hereby clarified that the State Government guarantee shall be invoked only after the NHPC has been unable to recover its dues under the BESSA by means of the Letter of Credit and the Payment Security Fund as provided by buying entity.</p>	<p>Projects tied up with such fund. The parties agree that subsequent to opening of the above Payment Security Fund, the proceeds of encashment of PBGs upon default of the BESSD (if any) under the respective BESPAs shall be passed on to the BIA / Buying Utility as per the modalities notified by MOP/MNRE for operation of Payment Security Fund. It is hereby clarified that the State Government guarantee shall be invoked only after the NHPC has been unable to recover its dues under the BESSA by means of the Letter of Credit and the Payment Security Fund as provided by buying entity.</p>
80	Article 2 of BESS A	2.9.3 Page 254 of BESSA	<p>If the NHPC agrees to the claim raised in the Bill Dispute Notice issued pursuant to Article 2.9.2, the NHPC shall make appropriate adjustment in the next Monthly Bill.</p>	<p>If the NHPC agrees to the claim raised in the Bill Dispute Notice issued pursuant to Article 2.9.2, the NHPC shall make appropriate adjustment in the next Monthly Bill. In such a case excess amount shall be governed as per Late Payment Surcharge Rules 2022 as amended from Time to Time.</p>
81	Article 2 of BESS A	2.11.3 of BESSA Page 256	<p>The provisions of Article 4.4.1 of the BESPAs shall be applicable mutatis mutandis to this Agreement. BESSD, in any Contract Year except for the Contract Year ending on 31st March immediately after COD of the Project, shall not be obliged to supply / make available any BESS capacity beyond / over and above Contracted Capacity. After the declaration of UCOD / COD, Charging power for charging of the BESS Capacity shall be scheduled and supplied by the Buying Entity. In no case, Buying Entity shall demand / schedule any energy in excess of 85% of the energy scheduled considering minimum round trip efficiency of the BESS being 85%. However, in case BESSD could demonstrate Round trip Efficiency in excess of 85%, for such incremental energy on account better Round Trip Efficiency, BESSD will be liable to receive an amount calculated @ INR 0.50/kWh for such incremental supply on account of higher Round trip efficiency. Schedule of charging and Discharging will be as per extant regulations / provisions. Further, during a Day, Buying Entity shall not ask</p>	<p>The provisions of Article 4.4.1 of the BESPAs shall be applicable mutatis mutandis to this Agreement. BESSD, in any Contract Year except for the Contract Year ending on 31st March immediately after COD of the Project, shall not be obliged to supply / make available any BESS capacity beyond / over and above Contracted Capacity. After the declaration of UCOD / COD, Charging power for charging of the BESS Capacity shall be scheduled and supplied by the Buying Entity. In no case, Buying Entity shall demand / schedule any energy in excess of 85% of the energy scheduled considering minimum round trip efficiency of the BESS being 85%. However, in case BESSD could demonstrate Round trip Efficiency in excess of 85%, for such incremental energy on account better Round Trip Efficiency, BESSD will be liable to receive an amount calculated @ INR 0.50/kWh for such incremental supply on account of higher Round trip efficiency. Schedule of charging and Discharging will be as per extant regulations / provisions. Further, during a Day, Buying Entity shall not ask for / schedule any BESS capacity / Energy in excess of 1 cycles of charge and discharge of 4 hours each. For an example, in a cycle charge to the rated capacity for 4.45 hours is permitted which could be a single</p>

for / schedule any BESS capacity / Energy in excess of 1 cycles of charge and discharge of 4 hours each. For an example, in a cycle charge to the rated capacity for 4 hours is permitted which could be a single stretch of 4 hours or multiple stretch having total cumulative time period of 4 hours. Similarly, for discharge, there could be a single stretch of 4 hours or multiple stretch having total cumulative time period of 4 hours subject to condition that total scheduled discharge of energy from BESS as demanded by the Buying Entity shall be limited to 85% of the energy supplied by the Buying Entity.

BESSD shall be liable to pay compensation under the NHPC-BESSD to BESPAs for any shortfall in performance requirement of BESS Capacity provided under Article 4.4.2 of the BESPAs from the contracted capacity. The amount of such compensation shall be as determined as per the manner and methodology specified in the BESPAs and such amount shall be passed on to the Buying Entity to offset for all potential costs associated with shortfall in performance requirement under the BESPAs.

The lower limit i.e. min. 1 monthly availability of the BESS being 95% i.e., however be relaxable to the extent of grid non-availability for evacuation which is beyond the control of the BESSD (as certified by the SLDC/RLDC). Further, no compensation shall be applicable in case of non-meeting of performance requirement as stipulated in BESPAs in events of Force Majeure identified under BESPAs with NHPC, affecting scheduling of BESS capacity.

stretch of **4.45 hours or multiple stretches for achieving 100% charging of rated MWh capacity having total cumulative time period upto 10 hours** ~~having total cumulative time period of 4 hours~~. Similarly, for discharge, there could be a single stretch of 4 hours or multiple stretch having total cumulative time period of upto **8 hours for achieving 100% discharging of rated MWh capacity** subject to condition that total scheduled discharge of energy from BESS as demanded by the Buying Entity shall be limited to 85% of the energy supplied by the Buying Entity.

Provided that KSEBL, at its discretion, can split the discharge of the stored energy into one or two sessions, but not more than two. The discharge may also be performed at below the rated power, stretching upto 8 Hours. It is hereby clarified that the BESS should be designed to provide a minimum of 4 Hours of discharging capacity at rated power. However, KSEBL, at its sole discretion, can schedule the discharging of the BESS in one or two sessions each day, at rated power or stretching upto 8 Hours when discharged below rated power.

Illustration: (At rated Power)

SI No:	Session -1	Session -2
1	4 Hours	--
2	3 Hours	1 Hour
3	2 Hours	2 Hours
4	1 Hour	3 Hours

Similarly, the charging cycle may, if required, shall be performed in a single session or in two sessions, at rated power or stretching upto 10 Hours when charged at below rated power, at sole discretion of KSEBL.

BESSD shall be liable to pay compensation under the NHPC-BESSD to BESPAs for any shortfall in performance requirement of BESS Capacity provided under Article 4.4.2 of the BESPAs from the contracted capacity. The amount of such compensation shall be as determined as per the manner and methodology specified in the BESPAs and such

				<p>amount shall be passed on to the Buying Entity to offset for all potential costs associated with shortfall in performance requirement under the BESPA.</p> <p>The lower limit i.e. min. 1 monthly annual availability of the BESS being 95% i.e., however be relaxable to the extent of grid non-availability for evacuation which is beyond the control of the BESSD (as certified by the SLDC/RLDC). Further, no compensation shall be applicable in case of non-meeting of performance requirement as stipulated in BESPA in events of Force Majeure identified under BESPA with NHPC, affecting scheduling of BESS capacity.</p>
82	Article 3 of BESS A	3.1.1 (ii) of BESSA Page 258	The Buying Entity fails to schedule BESS capacity from the Delivery Points for a continuous period of one week.	The Buying Entity fails to schedule BESS capacity from the Delivery Points for a continuous period of one week Year .
83	Article 3 of BESS A	New Clause 3.1.2	New Clause added	<p>NHPC Event of Default:</p> <p>The occurrence and continuation of any of the following events, unless any such event occurs as a result of a Force Majeure Event, shall constitute a NHPC's Event of Default:</p> <p>(i) If (a) the NHPC becomes voluntarily or involuntarily the subject of any bankruptcy or insolvency or winding up proceedings and such proceedings remain uncontested for a period of thirty (30) days, or (b) any winding up or bankruptcy or insolvency order is passed against the NHPC , or (c) NHPC goes into liquidation or dissolution or has a receiver or any similar officer appointed over all or substantially all of its assets or official liquidator is appointed to manage its affairs, pursuant to Law, Provided that a dissolution or liquidation of the NHPC will not be a NHPC's Event of Default if such dissolution or liquidation is for the purpose of a merger, consolidation or reorganization and where the resulting company retains creditworthiness similar to the NHPC and expressly assumes all obligations of the NHPC under this Agreement and is in a position to perform them; or</p> <p>(ii) NHPC repudiates this Agreement and does not rectify such breach</p>

				<p>within a period of thirty (30) days from a notice from Buying Entity in this regard; or</p> <p>(iii) NHPC where due to any Buying Entity's failure to comply with its material obligations, the NHPC is in breach of any of its material obligations pursuant to this Agreement, and such material breach is not rectified by the NHPC within thirty (30) days of receipt of first notice in this regard given by the Buying Utility.</p> <p>(iv) Occurrence of any other event which is specified in this Agreement to be a material breach/ default of the NHPC.</p>
84	Article 3 of BESS A	New Clause 3.2a	New Clause added	<p>Procedure for cases of NHPC Event of Default</p> <p>3.2a.1 Upon the occurrence and continuation of any Event of Default under 3.1.2, the Party affected by such occurrence shall have the right to deliver the notice to the other Party, stating its intention to terminate this Agreement (Preliminary Default Notice), which shall specify in reasonable detail, the circumstances giving rise to the issue of such notice.</p> <p>3.2a.2 Following the issue of Preliminary Default Notice, the Consultation Period of sixty (90) days or such longer period as the Parties may agree, shall apply and it shall be the responsibility of the Parties to discuss as to what steps shall have to be taken with a view to mitigate the consequences of the relevant Event of Default having regard to all the circumstances.</p> <p>3.2a.3 During the Consultation Period, the Parties shall, save as otherwise provided in this Agreement, continue to perform their respective obligations under this Agreement.</p> <p>3.2a.4 Within a period of seven (7) days following the expiry of the Consultation Period unless the Parties shall have otherwise agreed to the contrary or the Event of Default giving rise to the Consultation Period shall have ceased to exist or shall have been remedied, the Party may terminate this Agreement by giving a written Termination Notice of thirty (30) days to the other Party.</p> <p>3.2a.5 Subject to the occurrence and continuation of default by as contained under Article 3.1.2 and expiry of time period as per Article 3.2a.4,</p> <p>3.2a.5.1 Subject to the prior consent of the NHPC, the Buying Utility shall novate its part of the BESSA to any third party, including its Affiliates within the period of 210 days beyond the period as per</p>

				<p>Article 3.2a.4,</p> <p>3.2a.5.2 In the event the aforesaid novation is not acceptable to NHPC, or if no offer of novation is made by the defaulting Buying Utility within the stipulated period as per Article 3.2a.5.1, then NHPC may terminate the BESSA and at its discretion require the defaulting Buying Utility to either (i) takeover the Project assets by making a payment of the termination compensation equivalent to the amount of the Debt Due and the 150% (one hundred fifty per cent) of the Adjusted Equity less Insurance Cover, if any, or, (ii) pay to the BESSD/NHPC (as applicable), damages, equivalent to 6 (six) months, or balance BESPA period whichever is less, of charges for its contracted capacity, with the Project assets being retained by the BESSD.</p> <p>3.2a.6 In the event of occurrence of an BESSD Event of Default under the NHPC-BESSD BESPA, the lenders in concurrence with the Buying Entity and NHPC, may exercise their rights, if any, under Financing Agreements, to seek substitution of the BESSD by a selectee for the residual period of the Agreement, for the purpose of securing the payments of the total debt amount from the BESSD and performing the obligations of the BESSD. However, in the event the lenders are unable to substitute the defaulting BESSD within the stipulated period, NHPC may terminate the BESPA and the Buying Entity may acquire the Project assets for an amount equivalent to 90% of the debt due or less as mutually agreed, failing which, the lenders may exercise their mortgage rights and liquidate the Project assets. Provided that any substitution under this Agreement can only be made with the prior consent of NHPC including the condition that the selectee meets the eligibility requirements of Request for Selection (RfS) issued by NHPC and accepts the terms and conditions of this Agreement.</p>
85	Annexure 8 Page 276	Illustrations		Modified Annexure-8 attached separately

86	Annexure 9 Page 280 of RfS	Project locations	Sl. No	Project Location (within the state of kerala)	Project Capacity (MW/MWh)	Land Available (in Acre)	Bay Availability	GPS Location	Contact Person	Phone No.
			1	220kV Substation (AIS), Areacode	30/120	2	Space Available, New Bay to be Constructed	11°13' 40.5"N 76°02' 24.9"E	Assistant Executive Engineer	9496010565
			2	220kV Substation (AIS), Pothencode	40/160	2	Space Available, New Bay to be Constructed	8°37'08.23"N 76°53' 50.99"E	Assistant Executive Engineer	9446008949
			3	110kV Substation, (AIS) Sreekanthapuram	40/160	2	Space Available, New Bay to be Constructed	12°02' 35.4"N 75°30' 15.6"E	Assistant Executive Engineer	9496011355
			4	110kV Substation (AIS) Mulleria	15/60	1	Space Available, New Bay to be Constructed	12°32' 43" N 75°09' 57" E	Assistant Executive Engineer	9496011393
			Sl.No	Project Location (within the state of kerala)	Project Capacity (MW/MWh)	Land Available (in Acre)	Bay Availability	GPS Location	Contact Person	Phone No.
			1	220kV Substation (AIS) Areacode	30/120	2	Space Available, New Bay to be Constructed One spare feeder bay available	11°13' 40.5" N 76°02' 24.9" E	Assistant Executive Engineer	9496010565
			2	220kV Substation (AIS) Pothencode	40/160	2	Space Available, New Bay to be Constructed Two spare feeder bays available. Power transformer to be located at land designated for BESS, approximately 300 meter away	8°37'08.23" N 76°53' 50.99" E	Assistant Executive Engineer	9446008949
			3	110kV Substation (AIS) Sreekanthapuram	40/160	2	Space Available, New Bay to be Constructed	12°02' 35.4" N 75°30' 15.6" E	Assistant Executive Engineer	9496011355
			4	110kV Substation (AIS) Mulleria	15/60	1	Space Available, New Bay to be Constructed	12°32' 43" N 75°09' 57" E	Assistant Executive Engineer	9496011393

All other terms & conditions of the Bid Document shall remain unchanged.

General Manager (CC-I)

Email: contcivil1-co@nhpc.nic.in

SCHEDULE2 (Modified)

ILLUSTRATIONS

(Please refer Article4.4 of this Agreement)

Illustration

1. System Availability

Under a BESPA between an off-taker ‘X’ and BESSD ‘Y’ for a capacity ‘C’, the Schedule and Actual Injection into/Drawl from the Grid from the Project, as per the DSM/ UI Reports published by the SLDC for a Sample day is shown below:

Date	Block	Drawl (fromGrid) MUs (Charging) (X)	Injection (into Grid) MUs (Discharging) (Y)	Scheduled MUs (Z)	Time-block Availability (Drawl)	Time-block Availability (Injection)
					(TA) d =(Xi/Zi)	(TA) i =(Yi/Zi)
01-May-26	1	0	0	0	NA	NA
01-May-26	2	0	0	0	NA	NA
01-May-26	3	0	0	0	NA	NA
01-May-26	4	0	0	0	NA	NA
01-May-26	5	0	0	0	NA	NA
01-May-26	6	0	0	0	NA	NA
01-May-26	7	0	0	0	NA	NA
01-May-26	8	0	0	0	NA	NA
01-May-26	9	0	0	0	NA	NA
01-May-26	10	0	0	0	NA	NA
01-May-26	11	0	0	0	NA	NA
01-May-26	12	0	0	0	NA	NA
01-May-26	13	0	0	0	NA	NA
01-May-26	14	0	0	0	NA	NA
01-May-26	15	0	0	0	NA	NA
01-May-26	16	0	0	0	NA	NA
01-May-26	17	0	0	0	NA	NA
01-May-26	18	0	0	0	NA	NA
01-May-26	19	0	0	0	NA	NA
01-May-26	20	0	0	0	NA	NA
01-May-26	21	0	0	0	NA	NA
01-May-26	22	0	0	0	NA	NA
01-May-26	23	0	0	0	NA	NA
01-May-26	24	0	0	0	NA	NA
01-May-26	25	0	0	0	NA	NA
01-May-26	26	0	0	0	NA	NA
01-May-26	27	0	0	0	NA	NA

01-May-26	28	0	0	0	NA	NA
01-May-26	29	0	0	0	NA	NA
01-May-26	30	0	0	0	NA	NA
01-May-26	31	0	0	0	NA	NA
01-May-26	32	0	0	0	NA	NA
01-May-26	33	0	0	0	NA	NA
01-May-26	34	0	0	0	NA	NA
01-May-26	35	0	0	0	NA	NA
01-May-26	36	0	0	0	NA	NA
01-May-26	37	0.08	0	0.088	0.91	NA
01-May-26	38	0.08	0	0.088	0.91	NA
01-May-26	39	0.088	0	0.088	1.00	NA
01-May-26	40	0.088	0	0.088	1.00	NA
01-May-26	41	0.088	0	0.088	1.00	NA
01-May-26	42	0.088	0	0.088	1.00	NA
01-May-26	43	0.088	0	0.088	1.00	NA
01-May-26	44	0.088	0	0.088	1.00	NA
01-May-26	45	0.08	0	0.088	0.91	NA
01-May-26	46	0.08	0	0.088	0.91	NA
01-May-26	47	0.088	0	0.088	1.00	NA
01-May-26	48	0.088	0	0.088	1.00	NA
01-May-26	49	0.088	0	0.088	1.00	NA
01-May-26	50	0.088	0	0.088	1.00	NA
01-May-26	51	0.088	0	0.088	1.00	NA
01-May-26	52	0.088	0	0.088	1.00	NA
01-May-26	53	0	0	0	NA	NA
01-May-26	54	0	0	0	NA	NA
01-May-26	55	0	0	0	NA	NA
01-May-26	56	0	0	0	NA	NA
01-May-26	57	0	0	0	NA	NA
01-May-26	58	0	0	0	NA	NA
01-May-26	59	0	0	0	NA	NA
01-May-26	60	0	0	0	NA	NA
01-May-26	61	0	0	0	NA	NA
01-May-26	62	0	0	0	NA	NA
01-May-26	63	0	0	0	NA	NA
01-May-26	64	0	0	0	NA	NA
01-May-26	65	0	0	0	NA	NA
01-May-26	66	0	0	0	NA	NA
01-May-26	67	0	0	0	NA	NA
01-May-26	68	0	0	0	NA	NA
01-May-26	69	0	0	0	NA	NA
01-May-26	70	0	0	0	NA	NA
01-May-26	71	0	0	0	NA	NA
01-May-26	72	0	0	0	NA	NA
01-May-26	73	0	0	0	NA	NA

01-May-26	74	0	0	0	NA	NA
01-May-26	75	0	0	0	NA	NA
01-May-26	76	0	0	0	NA	NA
01-May-26	77	0	0.075	0.075	NA	1.00
01-May-26	78	0	0.075	0.075	NA	1.00
01-May-26	79	0	0.075	0.075	NA	1.00
01-May-26	80	0	0.05	0.075	NA	0.67
01-May-26	81	0	0.075	0.075	NA	1.00
01-May-26	82	0	0.075	0.075	NA	1.00
01-May-26	83	0	0.05	0.075	NA	0.67
01-May-26	84	0	0.075	0.075	NA	1.00
01-May-26	85	0	0.06	0.075	NA	0.8
01-May-26	86	0	0.075	0.075	NA	1.00
01-May-26	87	0	0.07	0.075	NA	0.93
01-May-26	88	0	0.075	0.075	NA	1.00
01-May-26	89	0	0.075	0.075	NA	1.00
01-May-26	90	0	0.075	0.075	NA	1.00
01-May-26	91	0	0.06	0.075	NA	0.8
01-May-26	92	0	0.05	0.075	NA	0.67
01-May-26	93	0	0	0	NA	NA
01-May-26	94	0	0	0	NA	NA
01-May-26	95	0	0	0	NA	NA
01-May-26	96	0	0	0	NA	NA
Total		1.376	1.09			

Discharge Energy Commitment not met for the Day = 0.11 MU

i - is the ith Timeblock in the day.

The System Availability during Charging Period for the day is calculated as the mean of **Column TA_(i)**, for all time- blocks where **Column Z is not zero**.

From the above table, Day's System Availability=0.97

Similarly, the System availability shall be calculated for 35040 time-blocks (96*365) in a year, excluding time-blocks where Grid is unavailable or in case of Force Majeure.

Assuming the Annual Availability of 0.94 during Charging Cycles :

Assuming the following parameters:

- Total Contract Capacity=125 MW, **C**
- Quoted monthly Capacity charges= 2 lakhs/MW/month, **D**
- Monthly system availability (as per procedure above) is calculated to be 0.94,**B**
- n =12

Liquidated Damages on account of shortage in annual system Availability, during charging periods, as calculated from formula provided in Clause 6.2 of the RfS:

$$\begin{aligned} \text{Liquidated damages} &= (A - B) \times C \times D \times n \times 1.5 \\ &= (0.95 - 0.94) \times 125 \times 2 \times 12 \times 1.5 \\ &= \text{Rs. 45 lakhs} \end{aligned}$$

If the maximum permissible un availability 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.

2. System Round Trip Efficiency

The present illustration is for calculating the Daily System Efficiency as demonstration only. The same methodology shall be used for calculation of monthly system efficiency as per Clause 6.1.e.iii of the RfS.

$$\text{System Efficiency} = \frac{\text{Total of column-y}}{\text{Total of column-x}} = \frac{1.09}{1.376} = 0.792 \sim 0.79 \text{ (rounded off to 2 decimal places).}$$

Assuming:

- a. monthly System Efficiency = 0.79,
- b. Total Monthly Drawl from Grid (Charging Power) = 41.28 MUs

Liquidated Damages is calculated @ say, Rs. 3 (i.e. APPC) for excess loss of energy considering expected System Efficiency to be 85%

Excess conversion losses = $(0.85 - 0.79) \times$ Total Drawl from the grid in the month (i.e. Charging Energy)

Liquidated Damages for the month = Rs. $0.06 \times 41.28 \times 3$ = Rs. 7.43 Millions = **Rs. 74.30 lakhs**

3. Annual Discharge Energy Commitment	= (500 x 1000) x 365 x10⁻⁶
	= 182.5 MU
Minimum Guaranteed Availability	= 95 %
Annual Discharge Energy Commitment	= 0.95x 182.5
	= 173.375 MU
Annual Discharge Tolerance (5% of Schedule) [A]	= 9.125 MU
Short fall during the day	= 0.11 MU
If,	
Cumulative Shortfall in Discharge Units for an Year [B]	= 9.50 MU

Shortfall in Annual Discharge Energy Commitment [B-A] = 0.375 MU

Assuming MCP DAM rate as ₹ 10 / kwh,

Liquidated Damages for Short fall in

Supply of Committed Energy

$$\begin{aligned}
 &= 0.375 \text{ MU} \times (\text{MCP DAM}) \\
 &= 0.375 \times ₹ 10 \\
 &= 3.75 \text{ Million ie Rs. 37.75 Lakh}
 \end{aligned}$$

Annexure-8 (Modified)

ILLUSTRATIONS

(Please refer Clause 6 under Section 3B of RfS)

Illustration

1. System Availability

Under a BESPAs between an off-taker ‘X’ and BESSD ‘Y’ for a capacity ‘C’, the Schedule and Actual Injection into/Drawl from the Grid from the Project, as per the DSM/ UI Reports published by the SLDC for a Sample day is shown below:

Date	Block	Drawl (fromGrid) MUs (Charging) (X)	Injection (into Grid) MUs (Discharging) (Y)	Scheduled MUs (Z)	Time-block Availability (Drawl)	Time-block Availability (Injection)
					(TA) d = (Xi/Zi)	(TA) i = (Yi/Zi)
01-May-26	1	0	0	0	NA	NA
01-May-26	2	0	0	0	NA	NA
01-May-26	3	0	0	0	NA	NA
01-May-26	4	0	0	0	NA	NA
01-May-26	5	0	0	0	NA	NA
01-May-26	6	0	0	0	NA	NA
01-May-26	7	0	0	0	NA	NA
01-May-26	8	0	0	0	NA	NA
01-May-26	9	0	0	0	NA	NA
01-May-26	10	0	0	0	NA	NA
01-May-26	11	0	0	0	NA	NA
01-May-26	12	0	0	0	NA	NA
01-May-26	13	0	0	0	NA	NA
01-May-26	14	0	0	0	NA	NA
01-May-26	15	0	0	0	NA	NA
01-May-26	16	0	0	0	NA	NA
01-May-26	17	0	0	0	NA	NA
01-May-26	18	0	0	0	NA	NA
01-May-26	19	0	0	0	NA	NA
01-May-26	20	0	0	0	NA	NA
01-May-26	21	0	0	0	NA	NA
01-May-26	22	0	0	0	NA	NA
01-May-26	23	0	0	0	NA	NA
01-May-26	24	0	0	0	NA	NA
01-May-26	25	0	0	0	NA	NA
01-May-26	26	0	0	0	NA	NA
01-May-26	27	0	0	0	NA	NA

01-May-26	28	0	0	0	NA	NA
01-May-26	29	0	0	0	NA	NA
01-May-26	30	0	0	0	NA	NA
01-May-26	31	0	0	0	NA	NA
01-May-26	32	0	0	0	NA	NA
01-May-26	33	0	0	0	NA	NA
01-May-26	34	0	0	0	NA	NA
01-May-26	35	0	0	0	NA	NA
01-May-26	36	0	0	0	NA	NA
01-May-26	37	0.08	0	0.088	0.91	NA
01-May-26	38	0.08	0	0.088	0.91	NA
01-May-26	39	0.088	0	0.088	1.00	NA
01-May-26	40	0.088	0	0.088	1.00	NA
01-May-26	41	0.088	0	0.088	1.00	NA
01-May-26	42	0.088	0	0.088	1.00	NA
01-May-26	43	0.088	0	0.088	1.00	NA
01-May-26	44	0.088	0	0.088	1.00	NA
01-May-26	45	0.08	0	0.088	0.91	NA
01-May-26	46	0.08	0	0.088	0.91	NA
01-May-26	47	0.088	0	0.088	1.00	NA
01-May-26	48	0.088	0	0.088	1.00	NA
01-May-26	49	0.088	0	0.088	1.00	NA
01-May-26	50	0.088	0	0.088	1.00	NA
01-May-26	51	0.088	0	0.088	1.00	NA
01-May-26	52	0.088	0	0.088	1.00	NA
01-May-26	53	0	0	0	NA	NA
01-May-26	54	0	0	0	NA	NA
01-May-26	55	0	0	0	NA	NA
01-May-26	56	0	0	0	NA	NA
01-May-26	57	0	0	0	NA	NA
01-May-26	58	0	0	0	NA	NA
01-May-26	59	0	0	0	NA	NA
01-May-26	60	0	0	0	NA	NA
01-May-26	61	0	0	0	NA	NA
01-May-26	62	0	0	0	NA	NA
01-May-26	63	0	0	0	NA	NA
01-May-26	64	0	0	0	NA	NA
01-May-26	65	0	0	0	NA	NA
01-May-26	66	0	0	0	NA	NA
01-May-26	67	0	0	0	NA	NA
01-May-26	68	0	0	0	NA	NA
01-May-26	69	0	0	0	NA	NA
01-May-26	70	0	0	0	NA	NA
01-May-26	71	0	0	0	NA	NA
01-May-26	72	0	0	0	NA	NA
01-May-26	73	0	0	0	NA	NA

01-May-26	74	0	0	0	NA	NA
01-May-26	75	0	0	0	NA	NA
01-May-26	76	0	0	0	NA	NA
01-May-26	77	0	0.075	0.075	NA	1.00
01-May-26	78	0	0.075	0.075	NA	1.00
01-May-26	79	0	0.075	0.075	NA	1.00
01-May-26	80	0	0.05	0.075	NA	0.67
01-May-26	81	0	0.075	0.075	NA	1.00
01-May-26	82	0	0.075	0.075	NA	1.00
01-May-26	83	0	0.05	0.075	NA	0.67
01-May-26	84	0	0.075	0.075	NA	1.00
01-May-26	85	0	0.06	0.075	NA	0.8
01-May-26	86	0	0.075	0.075	NA	1.00
01-May-26	87	0	0.07	0.075	NA	0.93
01-May-26	88	0	0.075	0.075	NA	1.00
01-May-26	89	0	0.075	0.075	NA	1.00
01-May-26	90	0	0.075	0.075	NA	1.00
01-May-26	91	0	0.06	0.075	NA	0.8
01-May-26	92	0	0.05	0.075	NA	0.67
01-May-26	93	0	0	0	NA	NA
01-May-26	94	0	0	0	NA	NA
01-May-26	95	0	0	0	NA	NA
01-May-26	96	0	0	0	NA	NA
Total		1.376	1.09			

Discharge Energy Commitment not met for the Day = 0.11 MU

i - is the ith Timeblock in the day.

The System Availability during Charging Period for the day is calculated as the mean of **Column TA_(i)**, for all time- blocks where **Column Z is not zero**.

From the above table, Day's System Availability=0.97

Similarly, the System availability shall be calculated for 35040 time-blocks (96*365) in a year, excluding time-blocks where Grid is unavailable or in case of Force Majeure.

Assuming the Annual Availability of 0.94 during Charging Cycles :

Assuming the following parameters:

- Total Contract Capacity=125 MW, **C**
- Quoted monthly Capacity charges= 2 lakhs/MW/month, **D**
- Monthly system availability (as per procedure above) is calculated to be 0.94,**B**
- n =12

Liquidated Damages on account of shortage in annual system Availability, during charging periods, as calculated from formula provided in Clause 6.2 of the RfS:

$$\text{Liquidated damages} = (A - B) \times C \times D \times n \times 1.5$$

$$= (0.95 - 0.94) \times 125 \times 2 \times 12 \times 1.5$$

$$= \text{Rs. 45 lakhs}$$

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Supply of Committed Energy

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